HOUSE OF REPRESENTATIVES—*Monday, May 21, 1990*

The House met at 12 noon and was called to order by the Speaker pro tempore [Mr. WHITTEN].

DESIGNATION OF SPEAKER PRO TEMPORE

The SPEAKER pro tempore laid before the House the following communication from the Speaker:

WASHINGTON, DC,
May 18, 1990.

I hereby designate the Honorable JAMIE L. WHITTEN to act as Speaker pro tempore on Monday, May 21, 1990.

THOMAS S. FOLEY,
Speaker of the House of Representatives.

PRAYER

The Chaplain, Rev. James David Ford, D.D., offered the following prayer:

Teach us, O gracious God, to use our words in ways that reflect what we believe and not as idle chatter designed to use people for our own benefit. May our words of praise and thanksgiving to You, O God, be those of adoration and honor, and as we communicate with each other, may we express faithfulness and respect. Amen.

THE JOURNAL

The SPEAKER pro tempore. The Chair has examined the Journal of the last day's proceedings and announces to the House his approval thereof.

Pursuant to clause 1, rule I, the Journal stands approved.

PLEDGE OF ALLEGIANCE

The SPEAKER pro tempore. The gentleman from California [Mr. HERGER] will please come forward and lead the House in the Pledge of Allegiance.

Mr. HERGER led the Pledge of Allegiance as follows:

I pledge allegiance to the Flag of the United States of America, and to the Republic for which it stands, one nation under God, indivisible, with liberty and justice for all.

MESSAGE FROM THE SENATE

A message from the Senate by Mr. Hallen, one of its clerks, announced that the Senate had passed without amendment a concurrent resolution of the House of the following title:

H. Con. Res. 311. Concurrent resolution providing for printing of additional copies of the booklet entitled "Our Flag."

The message also announced that the Senate had passed bills, joint resolutions and a concurrent resolution of the following titles, in which the concurrence of the House is requested:

S. 1128. An act for the relief of Richard Saunders;

S. 1738. An act to convey certain Oregon and California Railroad Grant Lands in Josephine County, OR, to the Rouge Community College District, and for other purposes;

S. 1791. An act to amend the International Travel Act of 1961 to assist in the growth of international travel and tourism into the United States, and for other purposes;

S. 2240. An act to amend the Public Health Service Act to provide grants to improve the quality and availability of care for individuals and families with HIV disease, and for other purposes;

S.J. Res. 240. Joint resolution designating the week of June 10, 1990, through June 16, 1990, as Multiple-Use Sustained-Yield Week";

S.J. Res. 315. Joint resolution for the designation of July 22, 1990, as "Rose Fitzgerald Kennedy Family Appreciation Day"; and

S. Con. Res. 133. Concurrent resolution providing for the use of the Capitol rotunda.

TRADE BRIDGE WITH JAPAN MUST BE TWO WAY

(Mr. TRAFICANT asked and was given permission to address the House for 1 minute and to revise and extend his remarks and include extraneous matter.)

Mr. TRAFICANT. Mr. Speaker, the controversial Japanese politician Shintaro Isihara, who wrote the book "The Japan That Can Say 'No'" was in America yesterday speaking to a group of workers in Michigan. He said in the past that Americans were lazy and in fact we were racist, and that was our major problem.

He now has labeled us again. He said, "America is one big giant cry baby."

There was something interesting yesterday though, because Isihara had admitted some truthful facts about Japan. He admitted that Japan has closed markets. In fact, he said Japanese consumers pay six times more for rice than any other country in the world.

He also admitted he would love to own a Motorola cellular telephone, but Motorola, an American company, is prevented from doing business in Japan.

But he said we can work it out. He said America needs with Japan a new marriage, but this time Japan must be the wife, not the mistress.

I say, Mr. Speaker, it is time for a shotgun wedding if Japan does not open up those markets. Our people are losing their jobs, losing their homes, and Japanese politicians are admitting they are practicing illegal trade in closing their markets.

Congress ought to be ashamed of themselves. It is time to tell the Japanese we need a new two-lane bridge, and we are not going to pay for the bridge this time, and we sure as hell are not going to have a toll road either.

COMMUNICATION FROM THE CLERK OF THE HOUSE

The SPEAKER pro tempore laid before the House the following communication from the Clerk of the House of Representatives:

WASHINGTON, DC,
May 18, 1990.

Hon. THOMAS S. FOLEY,
The Speaker, House of Representatives, Washington, DC.

DEAR MR. SPEAKER: Pursuant to the permission granted in clause 5 of rule III of the Rules of the U.S. House of Representatives, the Clerk received at 9:25 a.m. on Friday, May 18, 1990, the following message from the Secretary of the Senate: That the Senate passed without amendment House Concurrent Resolution 286.

With great respect, I am,
Sincerely yours,

DONNALD K. ANDERSON,
Clerk, House of Representatives.

ANNOUNCEMENT BY THE SPEAKER PRO TEMPORE

The SPEAKER pro tempore. Pursuant to the provisions of clause 5 of rule I, the Chair announces that he will postpone further proceedings today on each motion to suspend the rules on which a recorded vote or the yeas and nays are ordered, or on which the vote is objected to under clause 4 of rule XV.

Rollcall votes, if postponed, will be taken on Tuesday, May 22, 1990.

PETROGLYPH NATIONAL MONUMENT ESTABLISHMENT ACT OF 1990

Mr. VENTO. Mr. Speaker, I move to suspend the rules and pass the Senate bill (S. 286) to establish the Petroglyph National Monument in the State of New Mexico, and for other purposes, as amended.

The Clerk read as follows:

S. 286

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

TITLE I—PETROGLYPH NATIONAL MONUMENT

SEC. 101. (a) This title may be cited as the "Petroglyph National Monument Establishment Act of 1990".

(b) The Congress finds that—

(1) the nationally significant Las Imagines National Archeological District on Albuquerque's West Mesa Escarpment contains more than 15,000 documented prehistoric and historic petroglyphs;

(2) this district also contains approximately 65 other archeological sites;

(3) the West Mesa Escarpment and the petroglyphs are threatened by urbanization and vandalism, and hundreds of petroglyphs have already been destroyed;

(4) the State of New Mexico has shown great leadership in recognizing the importance of the archeological resources of the West Mesa Escarpment through the establishment of the Las Imagines National Archeological District;

(5) the city of Albuquerque has played a significant role in the preservation of the natural, cultural, and recreational resources of the West Mesa Escarpment;

(6) the Middle Rio Grande Pueblo Tribes have shown a strong and sincere interest in preservation of their heritage through protection of the West Mesa Escarpment;

(7) the Atrisco Land Grant, Inc., now held by Westland Development Co., Inc., a corporation whose stock is owned primarily by heirs of the Atrisco Land Grant, has played a significant role in the settlement of the West Mesa area since the grant's formation in 1692 and has shown a strong interest in the preservation of their traditional lands;

(8) the National Park System has no unit established for the specific purpose of protecting, preserving, and interpreting prehistoric and historic rock art; and

(9) in light of the national significance of the West Mesa Escarpment and the petroglyphs and the urgent need to protect the cultural and natural resources of the area from urbanization and vandalism, it is appropriate that a national monument be established in the West Mesa Escarpment area, near Albuquerque, New Mexico.

SEC. 102. (a) In order to preserve, for the benefit and enjoyment of present and future generations, that area in New Mexico containing the nationally significant West Mesa Escarpment, the Las Imagines National Archeological District, a portion of the Atrisco Land Grant, and other significant natural and cultural resources, to provide for the interpretation of such resources, and to facilitate research activities associated with the resources, there is hereby established, subject to subsection (d), the Petroglyph National Monument (hereinafter referred to as the "monument") as a unit of the National Park System. The monument shall consist of approximately 7,274 acres including the Atrisco, Boca Negra, and Piedras Mercadas Units as depicted on the map entitled "Boundary Map, Petroglyph National Monument", numbered NM-PETR-80,010B and dated May 1990, which shall be on file and available for public inspection in the offices of the National Park Service, Department of the Interior, in the offices of the Department of Energy, Minerals, and Natural Resources of the State of New Mexico, and in the office of the mayor of the city of Albuquerque, New Mexico.

(b) The monument shall be administered by the Secretary or, where appropriate, by the Secretary in cooperation with the State of New Mexico (hereinafter referred to as the "State") and the city of Albuquerque, New Mexico (hereinafter referred to as the "city"), in accordance with section 104 of this title.

(c) Within 6 months after the enactment of this title, the Secretary shall file a legal description of the monument with the Committee on Energy and Natural Resources of the Senate and the Committee on Interior and Insular Affairs of the House of Representatives. Such legal description shall have the same force and effect as if included in this title, except that the Secretary may correct clerical and typographical errors in such legal description. The legal description shall be on file and available for public inspection in the offices of the National Park Service, Department of the Interior, in the offices of the Department of Energy, Minerals, and Natural Resources of the State of New Mexico, in the office of the mayor of the city of Albuquerque, New Mexico, and in the monument office: *Provided,* That the Secretary may from time to time, after completion of the plan referred to in section 105(a) of this title, make minor adjustments to the boundary by publication of a revised map or other boundary description in the Federal Register.

(d) The monument shall be established only when the city, the State, and the Secretary have entered into a binding agreement that all lands within the boundaries of the monument shall be managed in accordance with section 104 of this title.

SEC. 103. (a)(1) Within the boundary of the monument, the Secretary is authorized to acquire lands and interests in lands by donation, purchase with donated or appropriated funds, exchange, or transfer from any other Federal agency, except that lands or interests therein owned by the State or a political subdivision thereof may be acquired only by donation or exchange.

(2) The Secretary may also acquire some or all of the approximately 95 acres within the area identified as "Potential Addition" on the map referenced in section 102(a), if, after consultation with the Commission established under section 108, the Secretary determines that such acquisition would further the purposes of this Act.

(3) The authority of the Secretary to make acquisitions pursuant to paragraph (2) shall expire on the date three years after the date of enactment of this Act.

(4) Any lands acquired pursuant to paragraph (2) shall be incorporated into Petroglyph National Monument and shall be managed accordingly.

(b) Where the surface and subsurface estates of private land to be acquired are separately owned, the Secretary shall acquire the subsurface estate to such land prior to or at the same time the surface estate is acquired: *Provided,* That this subsection shall not be applicable if the Secretary determines that the prior acquisition of the surface estate is necessary—

(1) to prevent damage to the resources of the monument; or

(2) to properly manage and interpret the monument in accordance with section 102.

(c) The Secretary may exchange lands within the area described on the map referred to in section 102 as the Piedras Marcadas Unit for lands owned by the city within the area described on the map referred to in section 102 as the Atrisco Unit. The Secretary may exchange lands within the area described on the map referred to in section 102 as the Boca Negra Unit for lands owned by the State within the area described on the map referred to in section 102 as the Atrisco Unit. Exchanges shall be on the basis of equal value, and either party to the exchange may pay or accept cash in order to equalize the value of the properties exchanged.

(d) Prior to acquiring fee simple ownership of private lands or interests therein within the boundaries of the monument, the Secretary is authorized to acquire an appropriate interest in such land by donation or for a nominal fee from its owners for the purpose of providing immediate protection against trespass and vandalism and initiating any resource inventories necessary to carry out the purposes of this title.

SEC. 104. (a) Pending establishment of the monument and thereafter, the Secretary shall administer lands and interests therein under his jurisdiction within the boundary of the monument. The Secretary shall administer, manage, and protect the monument in accordance with the Act of August 25, 1916 (39 Stat. 535; 16 U.S.C. 1 et seq.), the Act of August 21, 1935 (49 Stat. 666; 16 U.S.C. 461 et seq.), and this title, and in such manner as to preserve, for the benefit and enjoyment of present and future generations, its cultural and natural resources, and to provide for interpretation of and research on such resources.

(b) Units of the monument to be managed by the State and the city shall be managed and developed in accordance with management and operational plans prepared cooperatively with the National Park Service, consistent with section 106 of this title. Visitor use and interpretive programs within the State and city units shall be undertaken consistent with plans developed with the assistance of the National Park Service.

(c) The Secretary is authorized to enter into cooperative agreements with either the State or the city under which the Secretary may manage and interpret any lands owned by the State or the city, respectively, within the boundaries of the monument.

(d) In order to encourage a unified and cost effective interpretive program of the natural and culutral resouces of the West Mesa Escarpment and its environs, the Secretary is authorized to enter into cooperative agreements with other Federal, State, and local public departments and agencies, Indian tribes, and nonprofit entities providing for the interpretation of these resources. Such agreements shall include, but need not be limited to, provision for the Secretary to develop and operate interpretive facilities and programs on lands and interests in lands outside the boundaries of the monument, with the agreement of the owner or administrator thereof. Such cooperative agreements may also provide for financial and technical assistance for the planning and implementation of interpretive programs and minimal development related to those programs.

(e) Federal laws generally applicable to units of the National Park System, including the National Environmental Policy Act of 1969 and the Archeological Resources Protection Act of 1979, shall apply to the monument. The Secretary is authorized to pursue concurrent jurisdiction of the monument for the purposes of law enforcement and implementation of Federal regulations.

SEC. 105. (a) The Secretary may participate in land use and transportation management planning conducted by appropriate local authorities for lands adjacent to the

monument and may provide technical assistance to such authorities and affected landowners for such planning.

(b) Nothing in this title shall be construed as authorizing or requiring revocations for any interest or easement for existing electric transmission or distribution facilities or prohibiting the operation of maintenance of such facilities within or adjacent to the boundaries of the monument.

SEC. 106. (a) Within 3 years from the date funding is made available for the purposes of this section, the Secretary, in cooperation with the city and the State, shall develop and transmit to the Committee on Energy and Natural Resources of the Senate and the Committee on Interior and Insular Affairs of the House of Representatives, a general management plan for the monument consistent with the purposes of this title, including but not limited to—

(1) a statement of the number of visitors and types of public use within the monument which can be accommodated in accordance with the protection of its resources;

(2) a resource protection program;

(3) a general interpretive program;

(4) a plan to implement the joint resolution entitled "American Indian Religious Freedom", approved August 11, 1978 (42 U.S.C. 1996);

(5) a general development plan for the monument, including proposals for a visitors' center, and the estimated cost thereof; and

(6) a development for the Rock Art Research Center.

(b) The management plan shall be prepared in consultation with the Petroglyph National Monument Advisory Commission, established pursuant to section 107, appropriate Indian tribes and their civil officials, the heirs of the Atrisco Land Grant, the New Mexico State Historical Preservation Office, and other interested parties.

(c) The Secretary shall undertake, in consultation and cooperation with appropriate New Mexico Indian tribes and their civil officials, research and other Rio Grande style rock art sites in New Mexico on Federal lands, and through cooperative agreements with State and willing private land owners, on non-Federal lands. The Secretary shall provide the Committee on Energy and Natural Resources of the Senate and the Committee on Interior and Insular Affairs of the House of Representatives, within 3 years of the date funding is made available for the purposes of this section, a report that—

(1) lists various locations of Rio Grande style rock art;

(2) identifies the ownership of the rock art;

(3) identifies the condition of the resources; and

(4) identifies the appropriate type of technical assistance needed for the protection and care of these resources.

The report shall be updated and transmitted to such committees every 2 years thereafter.

SEC. 107. (a) In order to provide for research relating to Rio Grande style rock art, undertake comprehensive evaluations of pertroglyphs within the national monument, prepare interpretive programs that are sensitive to the concerns of the Indian and Hispanic peoples, and relate monument resources to other styles and forms of rock art, the Secretary, acting through the National Park Service and in cooperation with the University of New Mexico, other educational institutions, foundations, Indian tribes, and private entities, shall establish a Rock Art Research Center (hereinafter referred to as the "Center").

(b) The Center shall function as a focal point for the systematic and scholarly collection, analysis, and dissemination of information relating to Rio Grande style rock art, and other forms of rock art within the region.

(c) The Center shall produce research data and educational materials that will enhance public understanding of prehistoric and historic rock art.

(d) The Center shall provide for a broad program of research including ethnographic studies, resource management techniques, and comparative studies of rock art forms and styles.

(e) Research shall be primarily directed toward rock art managed by the National Park Service. The Secretary may enter into cooperative agreements with other agencies and entities as may be appropriate to carry out the requirements of the Rock Art Research Center.

(f) The Secretary, acting through the National Park Service, is authorized to undertake research and assist in management and protection of Rio Grande style rock art sites on public and, with the agreement of the landowner, private lands within the Galisteo Basin. The Secretary is authorized to enter into cooperative agreements with landowners of such rock art sites and expend appropriated funds for research, site protection, and interpretive programs. Research shall include the identification and mapping of rock art sites and the development of protection options.

SEC. 108. (a) There is established the Petroglyph National Monument Advisory Commission (hereinafter referred to as the "Commission"). The Commission shall be composed of 11 members appointed by the Secretary for terms of 5 years as follows:

(1) one member, who shall have professional expertise in history or archaeology, appointed from recommendations submitted by the Governor of the State of New Mexico;

(2) one member, who shall have professional expertise in history or archaeology, appointed from recommendations submitted by the mayor of the city of Albuquerque, New Mexico;

(3) one member, who shall have professional expertise in Indian history or ceremonial activities, appointed from recommendations submitted by the All Indian Pueblo Council;

(4) one member who shall be a shareholder of the Westland Development Co., Inc.;

(5) one member who shall be an heir of the Atrisco Land Grant;

(6) one member who shall be an affected landowner;

(7) one member who shall have professional expertise in Indian rock art;

(8) one member who shall have professional expertise in cultural anthropology;

(9) one member who shall have professional expertise in geology;

(10) one member from the general public; and

(11) the Director of the National Park Service, or his or her designee, ex officio.

(b) Any member of the Commission may serve after the expiration of his term until his successor is appointed. A vacancy in the Commission shall be filled in the manner in which the original appointment was made.

(c) Members of the Commission shall serve without pay. While away from their homes or regular places of business in the performance of services for the Commission, members of the Commission shall be allowed travel expenses, including per diem in lieu of subsistence, in the same manner as persons employed intermittently in Government service are allowed expenses under section 5703 of title 5, United States Code.

(d) The Chair and other officers of the Commission shall be elected by a majority of the members of the Commission to serve for terms established by the Commission.

(e) The Commission shall meet at the call of the Chair or a majority of its members, but not less than twice annually. Six members of the Commission shall constitute a quorum.

Consistent with the public meeting requirements of section 10 of the Federal Advisory Committee Act (5 U.S.C. App.), the Commission shall, from time to time, meet with persons concerned with Indian history and historic preservation and with other interested persons.

(f) The Commission may make such bylaws, rules, and regulations as it considers necessary to carry out its functions under this title. Section 14(b) of the Federal Advisory Committee Act (5 U.S.C. App.) shall not apply to the Commission.

(g) The Commission shall advise the Secretary on the management and development of the monument and on the preparation of the plan referred to in section 105(a) of this title. The Secretary, or his designee, shall from time to time, but at least semiannually, meet and consult with the Commission on matters relating to the management and development of the monument.

(h) The Commission shall cease to exist 10 years after the date of its first meeting.

SEC. 109. There are authorized to be appropriated such sums as may be necessary for the purposes of this title. The Secretary shall prepare and submit to the Committee on Energy and Natural Resources of the Senate and the Committee on Interior and Insular Affairs of the House of Representatives, concurrently with the proposed budget for the second fiscal year beginning after the date of enactment of this title, and every five years thereafter, a report on the status of the agreement referred to in section 102(d), its associated costs, and any proposed alterations to the agreement.

TITLE II—PECOS NATIONAL HISTORICAL PARK

SEC. 201. The purpose of this title is—

(1) to recognize the multitheme history, including the cultural interaction among diverse groups of people, of the Pecos area and its "gateway" role between the Great Plains and the Rio Grande Valley, and

(2) to provide for the preservation and interpretation of the cultural and natural resources of the Forked Lightning Ranch by establishing the Pecos National Historical Park.

SEC. 202. (a) In order to enhance and preserve the existing Pecos National Monument and related nationally significant resources for the benefit and enjoyment of present and future generations, there is hereby established the Pecos National Historical Park (hereinafter in this title referred to as the "park").

(b) The park shall include the existing Pecos National Monument and the area known as the Forked Lightning Ranch which surrounds the Pecos National Monument and shall consist of approximately 5,865 acres of the lands and interests in lands as generally depicted on the map entitled "Boundary Map—"Pecos National His-

torical Park Boundary Concept", numbered 430/80028 and dated March 1990. The map shall be on file and available for public inspection in the offices of the National Park Service, Department of the Interior. The Secretary of the Interior (hereinafter in this title referred to as the "Secretary") may from time to time make minor revisions in the boundary of the park in accordance with section 7(c) of the Land and Water Conservation Fund Act of 1965 (16 U.S.C. 4601-4 and following).

(c) The Act entitled "An Act to authorize the establishment of Pecos National Monument in the State of New Mexico, and for other purposes" approved June 28, 1965 (79 Stat. 195), is hereby repealed, and any funds available for purposes of the Pecos National Monument shall be available for purposes of the park.

SEC. 203. The Secretary is authorized to acquire lands, waters, and interests therein within the boundaries of the park by donation, purchase with donated or appropriated funds, or exchange; *provided, however,* that the Secretary may not acquire lands within the Forked Lightning Ranch as depicted on the map from the owner of record of such lands as of May 1, 1990 without the consent of such owner unless the Secretary determines that the lands are being used, or that there is an imminent threat that the lands will be used, for any purpose that is incompatible with the purposes of this Act.

SEC. 204. The Secretary shall administer the park in accordance with the provisions of this title and the provisions of law generally applicable to the administration of units of the National Park System, including the Act of August 25, 1916 (39 Stat. 535; 16 U.S.C. 1, 2-4), and the Act of August 21, 1935 (49 Stat. 666; 16 U.S.C. 461-7).

SEC. 205. Within 3 full fiscal years from the date funding is made available for the purposes of preparing a general management plan, the Secretary shall develop and transmit to the Committee on Energy and Natural Resources of the Senate and the Committee on Interior and Insular Affairs of the House of Representatives, a general management plan for the park consistent with the purposes of this title, including (but not limited to)—

(1) a general visitor use and interpretive program that fully considers the prehistoric and historic aspects of the national historical park including the "gateway theme" and early Spanish settlement of New Mexico;

(2) a statement on the number of visitors and types of public uses within the park which can be reasonably accommodated in accordance with the protection of its resources; and

(3) a general development plan for the park, including the estimated cost thereof.

SEC. 206. The Secretary, acting through the National Park Service, shall undertake a study of the Rowe Ruin, Arrowhead Pueblo, Hobson-Dressler Ruin, and Las Ruedas site for the suitability and feasibility of their inclusion in the park. The Secretary shall submit the study to the Congress within one year after the date of enactment of this title.

SEC. 207. There is authorized to be appropriated such sums as may be necessary to carry out this title.

TITLE III—ZUNI-CIBOLA NATIONAL HISTORICAL PARK AND JUAN DE ONATE MEMORIAL

SEC. 301. The first sentence of section 202 of Public Law 100-225 (16 U.S.C. 460uu-12) is amended by deleting "and Zuni-Cibola National Historical Park" and inserting "Zuni-Cibola National Historical Park, and petroglyph National Monument".

SEC. 302. The Zuni-Cibola National Historical Park Establishment Act of 1988 (16 U.S.C. 410pp et seq.) is amended—

(1) in section 2(c)—

(A) by striking "24 months" and inserting "6 years"; and

(B) by striking "24 months" and inserting "6-years"; and

(2) in section 3(a) by striking "18 months" and inserting "5½ years".

SEC. 303. (a) The tracts of land described in subsection (b) shall be treated as public land for the purposes of the Act of June 14, 1926 (43 U.S.C. 869 et seq.; commonly known as the "Recreation and Public Purposes Act").

(b) The land referred to in paragraph (1) is approximately 5 acres of the Sebastian Martin Land Grant near Los Luceros, New Mexico, as generally depicted on the map entitled "Onate Memorial Map" and dated July 1989.

The SPEAKER pro tempore. Is a second demanded?

Mr. SCHIFF. Mr. Speaker, I demand a second.

The SPEAKER pro tempore. Without objection, a second will be considered as ordered.

There was no objection.

The SPEAKER pro tempore. The gentleman from Minnesota [Mr. VENTO] will be recognized for 20 minutes, and the gentleman from New Mexico [Mr. SCHIFF] will be recognized for 20 minutes.

The Chair recognizes the gentleman from Minnesota [Mr. VENTO].

Mr. VENTO. Mr. Speaker, I yield myself such time as I may consume.

Mr. Speaker, today we have the opportunity to preserve and make accessible to the American people two sites of prehistoric and historic significance. S. 286 combines House Resolution 4235, introduced by our colleague, BILL RICHARDSON, that establishes Pecos National Historical Park with House Resolution 745, introduced by our colleague STEVE SCHIFF and S. 286, which recently passed the Senate, that establishes Petroglyph National Monument. Both Pecos and Petroglyphs are threatened by development that would destroy their irreplaceable and nationally significant resources. In addition, authority for some of the State funding for acquisition at Petroglyph ceases on June 30 of this year, making timely action crucial.

These areas preserve evidence of centuries of human occupation and activity. At Petroglyph National Monument, some 15,000 rock art carvings have been cut into the boulders strewn around the escarpment. These carvings provide impressive evidence of a past culture, and are silent witnesses to that culture's ideas and beliefs.

At Pecos National Historical Park, located on the gateway between the Great Plains and the Rio Grande Valley, centuries of human activity have left resources both prehistoric and historic. On this route of trade and travel passed prehistoric Indians, Spanish soldiers and missionaries, Santa Fe traders and the American Army. Rock shelters, pithouses, kivas, Spanish homesteads, Santa Fe trail ruts and Kozlowski's ranch which served as the headquarters for Union troops during the Civil War show the diverse human activities here.

Mr. Speaker, the committee adopted an amendment which made various changes to the legislation as introduced. At Petroglyphs it adds a rock art research center and other authority to research rock art, and directs that the Federal, State, and city land be consistently managed to National Park Service standards through joint agreements. It gives authority for the addition of two parcels of land to improve visitor access and the ability of the National Park Service to manage the resources, and deletes a reverter clause that was not in the House bill as introduced.

The Pecos language remains essentially as it was introduced. The Secretary is now directed to study four areas for potential addition whose importance witnesses stressed at the hearing. Given her generosity through the years, the ranch now owned by Mrs. Greer Garson Fogelson is to be acquired on a willing seller basis unless there is an imminent threat that the lands are being used, or will be used, for any purpose that is incompatible with the purposes of this act. The substitute also makes two minor technical amendments. It provides for a 5 acre land transfer from the Bureau of Land Management in order to establish a monument to the early Spanish explorer Juan de Onate. This provision has already passed the House once. It also extends the deadline for the establishment of the Zuni-Cibola National Historical Park from 2 years to 6 years.

Mr. Speaker, I endorse this legislation and urge its passage. These lands preserve special parts of our heritage and will make them accessible to the American people.

Mr. Speaker, I reserve the balance of my time.

Mr. SCHIFF. Mr. Speaker, I yield myself such time as I may consume.

Mr. Speaker, I am a supporter of the legislation now contained in H.R. 745. However, as the principal sponsor of the Petroglyph National Monument portion of that bill, I would like to take a couple of minutes to speak more particularly about that particular portion of the legislation.

The petroglyphs are rock art drawings. They are created by the scraping in an artistic fashion of the dark outer side of certain rocks to expose the white underside, and thereby produce images. These images are produced of religious and other drawings. There are approximately 15,000 such rock art images located in the Albuquerque,

NM, area on approximately 7,000 acres which would be protected under the Petroglyph National Monument. These rock art drawings are between 700 and 1,300 years old. Most of them were drawn by native Americans. However, some of them were made by early Spanish settlers.

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They constitute the largest collection of ancient rock art in the United States and share a home with 65 other archaeological sites, some up to 12,000 years old. This is one of the largest sites of such a collection in the United States which has not been appreciably damaged by vandals, and which is largely intact today.

Mr. Speaker, the petroglyphys, however, are threatened unless Congress takes urgent action. They are threatened by increasing vandalism in the area. They are threatened by theft. The petroglyphs have developed a certain value on the market, and on smaller stones which can be moved we believe that some have been stolen and are being sold on the market. Most significantly, Mr. Speaker, they are threatened by development. The area of 7,000 acres I have described is right in the path of the growth of the city of Albuquerque, which is a growing city in the Sun Belt of the United States. On the site literally houses are built now right up against where the petroglyphs exist.

Mr. Speaker, there has been a total cooperative effort to bring this to the House floor and to pass it obviously in the other body of the United States. It is supported by both sides of the aisle.

I want to thank the gentleman from Minnesota [Mr. VENTO], chairman of the subcommittee, and the gentleman from California [Mr. LAGOMARSINO], the ranking Republican on the subcommittee for their support, as well as my two colleagues from New Mexico, Mr. JOE SKEEN and Mr. BILL RICHARDSON, who have both supported it in their respective committees and subcommittees.

Petroglyph National Monument is supported by local groups. It is supported by general community groups in the Albuquerque area and supported by native American and Hispanic groups. In addition, one of our citizens, Ike Eastvold, set aside all of his personal matters to devote full time to supporting the creation of this national monument and forming an organization called Friends of Albuquerque Petroglyphs which has been instrumental in trying to bring this bill to the floor. In addition, national preservation organizations have supported the establishment of this national monument.

Finally, Mr. Speaker, this bill, if enacted by the Congress and signed into law, presents certain unique opportunities. The first is a unique sharing of responsibilities and costs by the Federal Government with the State government and with local governments. The State of New Mexico and the city of Albuquerque intend to pay a signficant share of the cost of acquisition of the land upon which the petroglyphs are now located. In addition, the State of New Mexico and the city of Albuquerque have offered a continuing role by paying for a portion of the management of the national monument under the direction of the Secretary of the Interior.

Finally, Mr. Speaker, we have another unique opportunity. The petroglyphs are not cave drawings made many thousands of years ago by people who are now long lost to history. The descendants of the Native Americans who drew most of the petroglyphs are alive and living in the Albuquerque and New Mexico areas today. The descendants of the Spanish explorers who drew some of the petroglyphs, and equally significantly upon whose land as part of an original spanish land grant, the Atrisco land grant of the 17th century where many of the petroglyphs are now located, are also living today and can be identified, and identify themselves in the Albuquerque and New Mexico area. The fact that we have the opportunity not only to preserve a historical treasure, but to work with the identified descendants of the people who created this treasure is remarkable.

If the Petroglyph National Monument becomes law, I recommend that the Park Service work very closely with all of the descendants in every step of the development of the national monument, from the development of a plan to permiting the continuation of ceremonies which exist to this day, to educating and teaching visitors to the national monument about the history of these groups.

Mr. Speaker, the House Interior and Insular Affairs Committee passed this bill unanimously. I hope the House will do likewise.

Mr. Speaker, I reserve the balance of my time.

Mr. VENTO. Mr. Speaker, there have been a number of individuals who have worked very hard in bringing this legislation to the floor today. Of course, one was the sponsor of the petroglyph bill, the gentleman from New Mexico, Congressman SCHIFF, who has just spoken, and I want to commend him for his work. But I think he had a very strong ally in the petroglyphs bill in Congressman BILL RICHARDSON who serves on the subcommittee and has been interested in this issue for some time, and in addition to that hosted myself and staff members and other committee members at a visit to the petroglyphs as well as to the Pecos National Monument which is expanded in this same bill. These are two unique areas, one an established monument today which we are converting into a park, and the other establishment of a new park.

Mr. Speaker, it would be hard to find the adjectives to adequately describe the archaeological and historic value of this 17-mile-long escarpment with literally tens of thousands of rock art inscriptions on it, an outstanding resource, one that literally is under threat by subdivision and other types of activities today. But today we are in the process of trying to protect these important resources in the Southwest. The Secretary of the Interior has personally, of course being a native of Albuquerque, stated his interest.

Mr. Speaker, I yield such time as he may consume to the gentleman from New Mexico [Mr. RICHARDSON], who is, in my mind, the principal architect of this bill that we have before us today. It touches a number of proposals that have made the Rock Art Institute and the other technical changes that are made to it, and of course the Pecos and his work on the petroglyphs along with many others.

Mr. RICHARDSON. Mr. Speaker, I thank the gentleman for yielding time to me, and thank him and his staff for their excellent support for this legislation, and their hard work in pursuit of the objectives of this legislation. I also thank my colleague, STEVE SCHIFF from New Mexico, a freshman Member, and congratulate him on the passage of what I think may be his first bill, but nonetheless, one that is very important to his congressional district and to the State of New Mexico.

I think what we are doing here is rolling a number of important environmental initiatives into one. First, the petroglyphs. I think the gentleman from Minnesota [Mr. VENTO], chairman of the subcommittee, and the gentleman from New Mexico [Mr. SCHIFF], mentioned the importance of this legislation with magnificent samples of Rio Grande style of rock art practiced between the 14th and the 17th century. These are threatened by vandalism, shooting, theft, and construction activities, external threats across the board.

Funding from the State of New Mexico once again is contingent upon what the Congress and the President do by June 30 of this year. So there is a dramatic urgency to getting this legislation passed. In fact, if the monument is not designated by June 30, 1990, $300,000 in State funds will be lost, and the balance of the funding will expire in June 1992.

Once again, the legislation authorizes the acquisition of approximately 7,370 acres, including the Atrisco, Boca Negra, and Piedras Mercadas units. It includes an amendment I proposed to create a rock art research center that

would increase our knowledge of prehistoric Indian cultures, broaden our understanding and appreciation of the Spanish rock art and attendant culture, and provide data for public education and interpretation of the petroglyphs.

Also included is an amendment I offered during full committee in consultation with the minority that would authorize the Park Service to study and acquire an additional 95 acres for the Petroglyph National Monument if the Secretary of the Interior determines that such acquisition would further the purposes of the act.

It is important that Congress act quickly on this legislation before all chances to preserve these wonderful artifacts are lost.

In addition to this legislation, we rolled in several other bills that are important to the State of New Mexico. Secondarily in importance is the Pecos National Monument, strategically situated on top of a small mesa where ancient Spanish and Indian ruins lie. This too is also threatened by development.

□ 1220

Adjacent to the monument is the Forked Lightning ranch owned by actress Greer Garson Fogelson. The ranch is currently for sale on the open market and has attracted quite a bit of attention. Earlier this year developers proposed to purchase the ranch and establish a resort city entitled "Santa Fe East 2001." The resort would include an airstrip, a resort hotel, residential housing, a multnational shopping center, an athletic center, a convention center, a private hunting preserve.

This is something that the townspeople of Pecos rebelled against, Mr. Speaker.

Although Mrs. Fogelson has decided against selling to these developers, the ranch remains on the open market. Any development would pose a serious threat to the historic scene of the existing Pecos National Monument. In addition, many archeological sites, Santa Fe Trail remnants, and areas associated with the Spanish settlement and the Civil War on the Forked Lightning lands would also be lost.

The legislation we are considering today would authorize the acquisition of approxmately 5,500 acres of the Forked Lightning Ranch so that they may be preserved for future generations. In full committee markup I offered an amendment that would authorize the Secretary of Interior to acquire these lands only with the consent of the owner, unless the Secretary determines that the lands are being used, or there is an imminent threat that the lands will be used, for purposes that are incompatible with the purposes of this act. In respect of the fine stewardship provided by Mrs. Greer Garson Fogelson, I believe it is only proper that the lands be acquired with her prior consent. It is extremely important that we act on this legislation quickly before these pristine lands are lost forever.

Mr. Speaker, some may be wondering if we are talking about the same Greer Garson that is a famous actress, an Oscar star of—well, I will not give the time that she was a star, but let us say in this century. She is an outstanding woman, and this is the same movie star.

Mr. Speaker, The bill also includes language to establish the Don Juan Onate Monument and amends the Zuni-Cibola National Historical Park Act of 1988.

The Onate provision simply removes a technical obstacle to the consideration by the Secretary of a transfer, under the Recreation and Public Purposes Act, of the surface estate on 5 acres of BLM land to Rio Arriba County in New Mexico, Rio Arriba County, which is largely Hispanic, wishes to erect a monument to a Spanish explorer, Don Juan Onate, on BLM land near the site where Onate's expedition established the first European settlement in what is now the United States.

With respect to the Zuni-Cibola National Historical Park Establishment Act of 1988, the amendment would simply extend the time in which the Secretary must accept a leasehold interest in the land. In accordance with the act, the Zuni Tribe must make an offering, and the Secretary of the Interior must accept a leasehold interest in the land in order to establish the park. The act terminates if the Secretary does not accept a leasehold within 2 years of establishment of the act.

The 2-year deadline is rapidly approaching and many issues remain to be resolved before an agreement can be reached.

Mr. Speaker, this House historically approved the first Indian national park cooperative venture in the last session of the Congress.

Finally, I am supportive of committee report language with respect to the Petroglyphs that recognizes the historic connection between this land and the Pueblo people as well as between this land and the heirs to the Atrisco land grant. The establishment of the monument will ensure that this land is protected and accessible to both these groups and the American public. Further, the committee encourages the National Park Service in its dealing with the Pueblo people and with the Atrisco heirs to ensure their appropriate access to this monument, under the American Indian Religous Freedom Act and the first amendment of the U.S. Constitution.

This legislation has bipartisan support and I urge a favorable vote today.

I especially want to commend the gentleman from California [Mr. LAGOMARSINO] for his not just foresightedness but for his spirit of compromise and commitment to national park issues, to conservation, to the environment, his ability to forge compromises out of differences.

I think it is clear that early on this legislation, the merging of the two bills caused some concerns among members of the minorities. Well, that is no longer the case except that what we have developed is a compromise which I believe is acceptable to all sides. But I do not think that this compromise on this effort and these landmark bills for the State of New Mexico and the country would have been achieved without the gentleman from California [Mr. LAGOMARSINO] and the gentleman from Minnesota [Mr. VENTO].

Finally, Mr. Speaker, to the Members of the other body, the New Mexico sponsors of this legislation, enormous credit must go to them.

I once again urge this House strongly support this legislation, give it an overwhelmingly unanimous vote and recognize what we are doing here is not just New Mexico legislation but national legislation that preserves the culture of the native Americans and the Spanish people, preserves land that brings tourism, protects from unwanted development and, most importantly, insures that the future generations will have an opportunity to see what many of our forefathers created in the 14th and 17th centuries.

The proposed Petroglyph National Monument lies just west of Albuquerque encompassing a 17-mile long basalt escarpment and five volcanic cones.

An estimated 15,000 to 17,000 petroglyphs lie in this location representing at least 12,000 years of human history.

The petroglyphs date between 1300 and 1650 AD—some nearly 3,000 years old.

BACKGROUND ON PETROGLYPH LEGISLATION

S. 286 would: First, authorize land acquisition of 7,274 acres including the Atrisco, Boca Negra, and Piedras Mercadas Units; second, authorize necessary appropriations—estimated cost of $58 million; third, direct the Secretary to administer the monument in accordance with all laws applicable to the National Park Service; fourth, authorize the Secretary to enter into cooperative agreements with either the State of New Mexico or the city to manage and interpret any lands owned by the State or the city within the boundaries of the Monument; fifth, allow the Secretary to acquire a less than fee interest in lands to provide immediate protection for the petroglyphs; sixth, calls for the preparation of a general management plan; seventh, directs the Secretary to under-

take research and prepare a report on other Rio Grande style rock art sites in New Mexico; and eighth, establish an advisory commission.

Pecos is located on the major gateway between the Great Plains and the Rio Grande Valley, and on the Santa Fe Trail. Prehistoric Native Americans, Spanish Missionaries and colonizers, Santa Fe traders, and the U.S. Army all used this route.

The Forked Lightning Ranch adjacent to the existing Pecos National Monument is for sale on the open market. A developer proposed to purchase the ranch in order to develop a major resort city—Santa Fe East 2001—including an airstrip, golf courses, shopping centers, and residential housing.

Any development would pose a serious threat to the monument's historic scene and destroy archeological sites, Santa Fe Trail remnants and areas associated with the Spanish settlement and the Mexican and Civil Wars.

WHAT THE PECOS BILL DOES

First, the bill would establish the Pecos National Historical Park authorizing acquisition of 5,865 acres; second, authorizes necessary appropriations—estimated at $5.5 million; third, provides for park's administration; and fourth, directs the Secretary to prepare a general management plan.

JOHN L. ROACH, INC.,
ATTORNEYS AT LAW,
Dallas, TX, April 23, 1990.

Hon. BRUCE F. VENTO,
Chairman, National Parks and Public Lands Subcommittee, Washington, DC.

DEAR CHAIRMAN VENTO: We are counsel for Greer Garson Fogelson. Mrs. Fogelson has been ill for an extended period and has left the city for recuperation. We have discussed with her the fact that there is pending legislation the ultimate result of which will be the extension of the Pecos National Monument, in San Miguel County, New Mexico, to include her Forked Lightning Ranch as a part of such facilities, as well as the expansion of the interpretive mission of the facilities.

As you know, Mr. and Mrs. Fogelson have supported such Monument for many years and have made various significant contributions in connection therewith. Mrs. Fogelson certainly does not object to the proposed legislation and has expressed to me her feeling that the expansion of the Monument to include her ranch would be a permanent dedication thereof to a matter in which she and her late husband have been interested for many years.

Very truly yours,

JOHN L. ROACH.

Mr. SCHIFF. Mr. Speaker, I yield myself such time as I may consume.

Mr. Speaker, I stated a moment ago but I am happy to reemphasize that this was a bipartisan effort and my colleague, the gentleman from New Mexico [Mr. RICHARDSON], has been with me in every step in the way in supporting this bill. I thank him for that and want to state that I support the portion of this bill that Congressman RICHARDSON drafted.

I also thank Chairman VENTO for his support of this bill as he has supported so many other preservation acts in the U.S. Congress.

Mr. Speaker, I yield 3 minutes to the gentleman from California [Mr. LAGOMARSINO], the ranking member of the subcommittee.

Mr. LAGOMARSINO. Mr. Speaker, I rise in support of S. 286, an act to establish Petroglyphs National Monument and for other purposes. My colleague from Minnesota has described the measures included in this bill and I would like to simply highlight a few features of the important Petroglyphs National Monument legislation before us today.

Mr. Speaker, this is a piece of legislation which is significant in many ways. The 15,000 to 17,000 petroglyphs chiseled into the hard volcanic rock are clearly a nationally significant resource. Similar in importance is the cooperative partnerships which have been built around this legislation; not only in the form of strong bipartisan support from the entire New Mexico delegation, but also the partnership among the local, State and Federal governments which will all be participating in the preservation and management of this resource. I would like to commend my colleague, Mr. SCHIFF, primary author of the House bill for the leadership role he has shown in building these partnerships, and also to Mr. RICHARDSON and Mr. SKEEN for their valuable contributions.

Finally, the total estimated cost for acquisition of this 7,300-acre park, $90 million, is significant. However, this cost is offset by the financial contribution of $30 million which has been pledged by the city and State governments. Mr. Speaker, it is this level of commitment on behalf of these other levels of government which makes this project feasible and I commend them for their participation. This type of cooperation will be increasingly important to the future success of our National Park System.

Mr. Speaker, the time to act on this measure is now. The Petroglyphs are being daily threatened by urban encroachment and I am grateful to the subcommittee chairman for moving this bill rapidly through the committee. It is also notable that establishment of this new monument will provide for important new recreation opportunities in the Albuquerque urban area. Providing increased opportunities for urban recreation is a high priority of the administration and an area of great need for the American people.

For these reasons, I urge my colleagues to join me in supporting this bill.

Mr. SCHIFF. Mr. Speaker, I have no further requests for time, and I yield back the balance of my time.

Mr. VENTO. Mr. Speaker, I have no further requests for time, and I yield back the balance of my time.

The SPEAKER pro tempore (Mr. WHITTEN). The question is on the motion offered by the gentleman from Minnesota [Mr. VENTO] that the House suspend the rules and pass the Senate bill, S. 286, as amended.

The question was taken.

□ 1230

Mr. VENTO. Mr. Speaker, I object to the vote on the ground that a quorum is not present and make the point of order that a quorum is not present.

The SPEAKER pro tempore (Mr. WHITTEN). Pursuant to clause 5 of rule I and the Chair's prior announcement, further proceedings on this motion will be postponed.

The point of no quorum is considered withdrawn.

GENERAL LEAVE

Mr. VENTO. Mr. Speaker, I ask unanimous consent that all Members may have 5 legislative days within which to revise and extend their remarks and include therein extraneous material on S. 286 of the Senate bill just considered.

The SPEAKER pro tempore. Is there objection to the request of the gentleman from Minnesota?

There was no objection.

REGARDING BURMESE ELECTIONS

Mr. SOLARZ. Mr. Speaker, I move to suspend the rules and agree to the concurrent resolution (H. Con. Res. 324) concerning human rights, democracy, and illicit narcotics production and trafficking in Burma, as amended.

The Clerk read as follows:

H. CON. RES. 324

Resolved by the House of Representatives (the Senate concurring),

SECTION 1. FINDINGS.

(a) HUMAN RIGHTS AND DEMOCRACY IN BURMA.—The Congress finds that—

(1) the people of Burma continue to be ruled by an unelected military government that does not govern by the consent of the people;

(2) the Burmese Government has violently suppressed prodemocracy demonstrations, killing or imprisoning thousands of demonstrators and forcing others to flee for their lives;

(3) the Government of Burma has pledged to hold free and fair elections in Burma on May 27, 1990;

(4) despite this commitment—

(A) thousands of persons connected with the prodemocracy movement remain imprisoned, and the government continues to arrest opposition figures engaged in peaceful political activities;

(B) independent human rights monitors report that the Burmese authorities have continued to engage in abuses against civil-

ians that include rape, torture, extrajudicial execution, and forced porterage;

(C) prominent civilian leaders who might represent a significant electoral challenge to the military regime's monopoly of power have been imprisoned or placed under house arrest and prevented from standing for election; and

(D) the State Law and Order Restoration Council has announced a severely restrictive set of national election campaign restrictions that provide the authorities with nearly unlimited discretion to restrict free and open debate on political issues;

(5) despite these obstacles to a free and fair election, the presence of impartial international observers both prior to and during the elections in Burma would signal the international community's strong interest in democracy in Burma, and might encourage fairness and help ensure that accurate judgments are made about the integrity of the electoral process; and

(6) economic and military cooperation between the Government of Burma and other foreign governments, including arms sales and cooperation with Burmese troops operating in border areas, has strengthened the position of the military regime, and has helped enable it to restrict the process of political reform and continue its abuses of human rights and humanitarian law.

(b) ILLICIT NARCOTICS PRODUCTION AND TRAFFICKING IN BURMA.—The Congress also finds that—

(1) Burma is the largest producer and exporter of illicit opium in the world, with narcotics production nearly doubling since the current military regime came to power in September 1988;

(2) increases in narcotics production since September 1988 have been facilitated by a lack of enforcement and eradication efforts by the Burmese Government, and a policy of accommodation with the main narcotics producing and trafficking organizations in Burma;

(3) this accommodation with drug traffickers has helped enable the Government of Burma to direct military energies and resources against opposition groups challenging the government, resulting in a wide range of human rights abuses;

(4) almost all United States-supported antinarcotics efforts in Burma were suspended in September 1988;

(5) a recent report by the United States General Accounting Office determined that the results of the United States-supported antinarcotics program in Burma prior to September 1988 had been seriously deficient;

(6) this report found that the current political situation in Burma precludes a resumption of United States antinarcotics programs;

(7) the administration does not fully concur with the conclusions of the General Accounting Office report; and

(8) a resumption of United States antinarcotics assistance at this time might be interpreted as a slackening of the United States Government's opposition to the repressive nature of the current Burmese regime and the widespread abuse of human rights carried out by that regime.

SEC. 2. POLICY STATEMENTS.

(a) ELECTIONS IN BURMA.—The Congress calls upon the Government of Burma to establish the conditions necessary to ensure free and fair elections by taking actions to—

(1) release all persons imprisoned or otherwise restricted for the peaceful expression of their views;

(2) permit all Burmese citizens committed to peaceful participation in the political process the opportunity to contest the elections;

(3) lift electoral campaign restrictions that provide the authorities with nearly unlimited power to limit free and open debate on political and economic issues;

(4) end the involvement of the State Law and Order Restoration Council in the formulation and administrration of electoral regulations, and establish for that purpose an impartial election commission that has independent authority to establish and administer election rules; and

(5) permit access to Burma for international election observers, including those associated with intergovernmental as well as nongovernmental organizations concerned about human rights and political reform.

(b) RESPECT FOR BASIC HUMAN RIGHTS IN BURMA.—The Congress calls upon the Government of Burma to demonstrate a commitment to basic human rights by taking action to—

(1) abandon martial law restrictions on the right to a fair trial and provide all persons charged with crimes with access to lawyers and family members, adequate time to prepare defenses, and the opportunity to have cases heard by impartial tribunals; and

(2) end the practices of rape, torture, extrajudicial executions, and forced porterage of civilians, and order thorough investigations of reports of abuses and pursue prosecutions against those believed to be responsible.

(c) ACTIONS BY THE INTERNATIONAL COMMUNITY.—The Congress—

(1) calls upon the international community to withhold foreign assistance from the Government of Burma and to end all military cooperation with the Burmese Government, including arms sales and cooperation with Burmese troops operating in border areas; and

(2) calls upon the President—

(A) to undertake efforts to discourage other countries from providing foreign assistance to Burma and engaging in military cooperation with the Burmese Government, and

(B) to encourage international observation of the election process.

(d) DRUG TRAFFICKING IN BURMA; UNITED STATES ANTINARCOTICS ASSISTANCE.—The Congress—

(1) denounces the practice of accommodation with drug traffickers followed by the current Government of Burma;

(2) calls upon the Government of Burma to end its tolerance of the production and trafficking of illicit narcotics and to take vigorous actions to implement effective antinarcotics programs;

(3) take note of and welcomes Administration statements that it has no present intention of resuming narcotics control assistance in Burma;

(4) declares its unwillingness to support narcotics control measures in Burma—

(A) which, giving particular weight to the views and attitudes of the Burmese people, could indicate a lessening of United States support for democratic evolution and improvement of human rights in Burma; or

(B) which are not appropriately monitored and do not effectively reduce the production and trafficking of illicit narcotics in Burma; and

(5) urges the President to—

(A) pressure the Burmese Government to cease its practice of accommodation with drug traffickers and to pursue more vigorous antinarcotics policies;

(B) focus international scrutiny on Burma's reprehensible antinarcotics record; and

(C) encourage the Burmese Government to adhere to all international antinarcotics agreements and to cooperate with relevant international agencies.

The SPEAKER pro tempore. Is a second demanded?

Mr. BROOMFIELD. Mr. Speaker, I demand a second.

The SPEAKER pro tempore. Without objection, a second will be considered as ordered.

There was no objection.

The SPEAKER pro tempore. The gentleman from New York [Mr. SOLARZ] will be recognized for 20 minutes and the gentleman from Michigan [Mr. BROOMFIELD] will be recognized for 20 minutes.

The Chair recognizes the gentleman from New York [Mr. SOLARZ].

Mr. SOLARZ. Mr. Speaker, I yield myself such time as I may consume.

Mr. Speaker, almost 2 years ago, in an action which foreshadowed the subsequent brutality which we all witnessed in Tiananmen Square in China, the military regime in Burma, in a desperate effort to remain in power, unleashed its own armed forces against the Burmese people. As a result thousands were killed, others were imprisoned, and the genie of democracy was stuffed back into the bottle of repression.

Since that time, the military government in Burma has responded to the democratic aspirations of the Burmese people with repression rather than with reconciliation. Over the course of the last year and a half, the systematic violation of the human rights of the Burmese people continues apace. Tens of thousands have been forcibly relocated from their neighborhoods and villages into the countryside. Thousands have been forced to engage in porterage in areas of the country where the government continues to wage war against its ethnic minorities. Torture is widespread. Rape is commonplace. The people of Burma who deeply and desperately desire to be freed, undoubtedly greatly resent the oppression which has fallen on them.

This resolution, Mr. Speaker, takes note of the continuing abuse of human rights in Burma, and calls upon the Burmese authorities to finally begin to respect the fundamental human rights of their own people. In an effort to make themselves look better in the international community, the Burmese Government has agreed to permit, next Sunday, the first multiparty elections in the last 30 years in that country. Unfortunately, the elections are a fraud, in the process of becoming a farce. Most of the key opposition leaders are either in jail or are under house arrest. All sorts of restrictions have been imposed on the ability of the candidates to campaign. The

government, unlike the Sandinista regime in Nicaragua, unlike the South African administration in Namibia has been utterly unwilling to permit international observers to enter the country in order to monitor these elections. I was myself denied a visa a few days ago when the government spokesmen said that they did not want any person in Burma like myself who in effect was not prepared to issue paeans of praise to the wise and benevolent leadership of the current regime.

This resolution calls upon the Government of Burma, if it is going to have an election, to make it a real election, to make it a genuine election, to make it a fair election. It calls upon the Government of Burma to release opposition leaders who have been unable to campaign so they can participate in the last week of this electoral contest in the political process. It calls upon the Government of Burma to permit international observers into the country. It also calls upon other foreign governments to cease their military cooperation with Burma, and to end whatever foreign aid program they may have in the country. There is no justification whatsoever for government efforts on the part of other nations to prop up a totally discredited and corrupt dictatorship in Burma.

Finally, Mr. Speaker, this resolution also addresses the narcotics problem in that country. Burma is the largest producer and exporter of illicit opium in the world. To make matters worse, the government there engages in a matter of accommodation with the drug traffickers in their own country. The resolution welcomes recent statements by the administration that it has no present intention of resuming narcotics control assistance in Burma. The resolution indicates that the Congress would not be prepared at this time to support any expansion of our narcotics program in Burma, particularly given the extent to which that could very easily be interpreted by the Burmese people as an indication that we were somehow or other by virtue of such activity, legitimizing what is, in effect, an illegitimate government. Also, given the degree of cooperation between the government and the narcotics producers, there is absolutely no reason to hope or believe that any increased cooperation between our two governments could, in fact, lead to a solution of the problem.

As some of our colleagues may know, the GAO recently submitted a report raising very serious questions about the efficacy of any narcotics control program in Burma, given the problems we have had in implementing these programs in the past, and the degree to which the government seems to benefit from the narcotics trade in the country.

Mr. Speaker, in conclusion I want to urge my colleagues to support this resolution. I think we will shortly find out from my dear friend on the other side of the aisle, that distinguished apostle of bipartisanship and statesman, the gentleman from Michigan [Mr. BROOMFIELD], the ranking minority member of the committee, that this resolution enjoys strong bipartisan support. We have accommodated some of the concerns of the minority. I am told the administration has no opposition to the adoption of the resolution. In conclusion, Mr. Speaker, that whatever impact this resolution may or may not have on the Government of Burma, and I am rapidly losing faith in anything to influence the Government of Burma, I do think it will be warmly received by the people of Burma who will learn about it not from the government-controlled media, but from the Voice of America and other foreign broadcasting services which are able to penetrate the bamboo curtain in Burma, and which are heard by the Burmese people. They will learn, once again, that they have not been forgotten, and that the cause of democracy which burns so brightly in their hearts, has been seen and responded to by the world's greatest parliamentary body, the Congress of the United States.

□ 1240

Mr. BROOMFIELD. Mr. Speaker, I yield myself such time as I may consume.

First, I would like to compliment the gentleman in the chair. I do not know if many people realize that we have in the chair today the dean of the entire House of Repersentatives, the gentleman from Mississippi [Mr. WHITTEN], who has served more than 50 years. JAMIE, it is good to see you up there.

The SPEAKER pro tempore (Mr. WHITTEN). I thank the gentleman for those kind statements.

Mr. BROOMFIELD. Mr. Speaker, I want to join my good friend, the gentleman from New York [Mr. SOLARZ], who is the chairman of the Subcommittee on Asian and Pacific Affairs of the Committee on Foreign Affairs. The gentleman from New York is one of the most distinguished Members of this House and is one of the most knowledgeable people that I know on the subject of foreign affairs. I am happy to join him in support of this particular concurrent resolution, because it is a bipartisan effort supported by the chairman of the Committee on Foreign Affairs and also by the gentleman from Pennsylvania [Mr. YATRON], the chairman of the Subcommittee on Human Rights and International Organizations of the Committee on Foreign Affairs. In fact, most of the members of the Committee on Foreign Affairs have expressed their strong support of the legislation which the gentleman from New York has explained.

Mr. Speaker, I just want to make a few observations along the lines of those made by the gentleman from New York [Mr. SOLARZ].

Mr. Speaker, Burma, which once had been considered the richest country in Southeast Asia is now considered one of the poorest in the world. While the Burmese people are suffering violations of their basic human rights, the military regime in control will be conducting elections on May 27 that are neither free nor fair and make a mockery of the electoral process.

To make things worse, the Government is cooperating with drug producers and traffickers that have made Burma the world's leading producer and exporter of illicit opium. We have the military regime in Burma to thank for this. Since they came to power in September 1988, narcotics production has nearly doubled in Burma.

House Concurrent Resolution 324 clearly expresses the concerns of the Congress regarding the dismal picture in Burma. It calls on Burma to hold elections that are free and fair, and urges the international community to support such elections. Further, it calls for Burma to respect the internationally recognized human rights of its people.

In the area of narcotics trafficking, it calls on Burma to end its tolerance of the production and trafficking of illicit narcotics and to implement effective antinarcotics programs. The resolution also declares the unwillingness of Congress to support antinarcotics control measures that could indicate a lessening of United States support for democratic evolution and improvement of human rights in Burma.

These are important signals on where our country stands as Burma approaches its elections. There is still a chance for the Burmese Government to do things right and allow democracy to flourish. I urge my colleagues to approve this resolution.

Mr. RICHARDSON. Mr. Speaker, I am heartened to see that a resolution condemning human rights abuses in Burma is sharing time on the floor today with a similar resolution regarding China. In many ways the human rights abuses in Burma have been as serious, perhaps more serious, than the ones in the People's Republic of China. Unfortunately, human rights abuses by the military regime in Rangoon have not undergone the scrutiny and public attention that is deserved.

Last week, the human rights caucus held a hearing chaired by my colleague from Illinois, JOHN PORTER, which focused needed attention on human rights abuses in Burma.

During this hearing Deputy Assistant Secretary of State for Human Rights Paula Dobriansky testified to the tremendous abuses being perpetrated by Generals Ne Win, Saw Maung, and their cronies.

Ordinary civilians are pressed into duty as porters by the military. These porters are

unpaid, poorly fed, and, once too weak to carry on, are left to die.

There are substantiated reports of porters being used to sweep minefields.

The Burmese student activist movement, crushed by the military's massacre in Rangoon in September of 1988, remains in hiding along the Burma-Thai border. This body approved one-quarter million dollars last year for food and medicine for the student camps. As the situation continues to deteriorate, these students will require both moral and substantiive support from the United States.

And amidst this atmosphere, the military regime in Rangoon is attempting to convince the world that Burma is about to undergo free and fair elections on May 27. Mr. Speaker, these elections will neither be free nor fair.

Suu Kyi, the dynamic leader of Burma's strongest opposition party, the National League for Democracy, has been under house arrest since July 1989. Tin Oo, the National League for Democracy's chairman, has been sentenced to 3 years hard labor. Hundreds, if not thousands, of opposition activists have met the same fate.

And in an effort to finance their regime, the Burmese generals have sold off their nations teak forests and fishing harvests to foreign companies and nation's willing to pay top dollar for wood and fish, regardless of the disastrous impact on the Burmese people.

Mr. YATRON. Mr. Speaker, I thank my colleague from New York, Mr. SOLARZ, for introducing this important legislation. I also want to commend the chairman of the Foreign Affairs Committee, Mr. FASCELL, and the ranking minority member, Mr. BROOMFIELD, for their leadership on this and other human rights issues. Mr. BEREUTER and Mr. LEACH should also be commended for their continued efforts to promote human rights.

The Burmese military government is one of the most corrupt and oppressive in Asia. The resolution before us today puts the Congress on record as deploring the sham elections scheduled for May 27 and the imprisonment of thousands of people associated with the democracy movement. House Concurrent Resolution 324 also calls attention to Burma's growing narcotics production since the military regime came into power in 1988.

Mr. Speaker, it has been almost 2 years since the Burmese military killed over 3,000 democracy demonstrators. According to a recent Amnesty International report, severe human rights violations have persisted at a consistently high rate ever since the military crackdown. These abuses include mass arrests, widespread torture, summary trials, and extrajudicial executions.

The military government has guaranteed its success at the polls on May 27 by jailing several thousand members of the opposition. Most of the members of the leading opposition party are either serving time in hard labor, detention, or are under house arrest. Moreover, the American Embassy has cited evidence that some opposition politicians have been tortured and killed while in detention.

The Burmese military regime has taken what was once one of the most prosperous countries in Asia and made it destitute. This Government is propping itself up on its drug profits, while the Burmese people are barely surviving.

Mr. Speaker, the lack of democratic and fundamental human rights in Burma and that country's role as the world's largest opium supplier should be of key concern to the Congress, the Bush administration, and the world community. Therefore, I urge the adoption of this resolution.

Mr. FASCELL. Mr. Speaker, I rise in support of House Concurrent Resolution 324, concerning human rights, democracy, and illicit narcotics production and trafficking in Burma.

Mr. Speaker, in the jubilation over the events of Eastern Europe, it may be easy to forget those who are still enslaved. We must not let this happen in the case of Burma, which is suffering under a cruel military dictatorship despite the clear wishes of the people for democratic reform. Elections are scheduled for May 27, but despite the Government's promise that they will be free and fair, thousands of prodemocracy demonstrators remain in prison, opposition figures continue to be arrested and prevented from standing for election, the authorities regularly abuse the civilian population through rape, torture, executions, and forced porterage, and the rules of the election campaign have been rigged to prevent free and open debate. This is an election in name only, and one in which it seems inevitable that the people will lose.

As if this depressingly familiar litany of problems were not sufficient, the Burmese authorities have cynically reached an accommodation with drug traffickers in that country, permitting the authorities to devote their attention full time to oppressing their own people. As a result, Burma has become the largest producer and exporter of illicit opium in the world.

House Concurrent Resolution 324 notes all of these developments, and calls on the Burmese Government to establish the conditions necessary to ensure free and fair elections, and to demonstrate a commitment to basic human rights. It calls on the international community to withhold foreign assistance from the Burmese Government and to end military cooperation with that Government. Finally, it denounces the cynical practice of accommodation with drug traffickers, states the unwillingness of Congress to support narcotics control measures in Burma which could undermine United States support for democratic evolution or which are not appropriately monitored.

This resolution, of course, may not change the minds of the ruthless authorities in Burma. But it will put Congress on record as standing with the Burmese people, who yearn for the same kind of freedom that other tyrannized countries are now beginning to experience. I urge all my colleagues to support House Concurrent Resolution 324.

Mr. BROOMFIELD. Mr. Speaker, I yield back the balance of my time.

Mr. SOLARZ. Mr. Speaker, I thank the gentleman from Michigan [Mr. BROOMFIELD] for his comments. I have no further requests for time, and I yield back the balance of my time.

The SPEAKER pro tempore. The question is on the motion offered by the gentleman from New York [Mr. SOLARZ] that the House suspend the rules and agree to the concurrent resolution, House Concurrent Resolution 324, as amended.

The question was taken; and (two-thirds having voted in favor thereof), the rules were suspended and the concurrent resolution, as amended, was agreed to.

A motion to reconsider was laid on the table.

GENERAL LEAVE

Mr. SOLARZ. Mr. Speaker, I ask unanimous consent that all Members may have 5 legislative days in which to revise and extend their remarks on the current resolution just agreed to.

The SPEAKER pro tempore. Is there objection to the request of the gentleman from New York?

There was no objection.

CONCERNING THE FIRST ANNIVERSARY OF THE TIANANMEN SQUARE MASSACRE

Mr. SOLARZ. Mr. Speaker, I move to suspend the rules and agree to the resolution (H. Res. 393) concerning the first anniversary of the Tiananmen Square massacre of June 4, 1989, in the People's Republic of China.

The Clerk read as follows:

H. RES. 393

Whereas the death of the former General Secretary of the Communist Party of the People's Republic of China, Hu Yaobang, on April 15, 1989, gave rise to peaceful protests throughout China calling for democratic reforms, including freedom of expression, freedom of assembly, and the elimination of corruption by government officials;

Whereas after that date, thousands of democracy demonstrators continued to protest peacefully in and around Tiananmen Square in Beijing until June 3 and 4, 1989, when Chinese authorities ordered the People's Liberation Army and other security forces to use lethal force to disperse demonstrators in Beijing, especially in the vicinity of Tiananmen Square;

Whereas according to the Department of State's Country Reports on Human Rights Practices for 1989, on June 3 and 4, 1989, People's Liberation Army soliders and other security forces killed at least several hundred, possibly thousands, and wounded thousands more;

Whereas thousands of people suspected of taking part in the democracy movement have been arrested and detained without trial, and some have reportedly been tortured;

Whereas the Government of the People's Republic of China continues to suppress the people of China and has launched a countrywide campaign to punish and silence anyone suspected of involvement in the democracy movement; and

Whereas on the occasion of the first anniversary of the Tiananmen Square massacre of June 4, 1989, the House of Representatives should recognize the significance of this date and commend the participants in the democracy movement in the People's Republic of China: Now, therefore, be it

Resolved, That the House of Representatives—

(1) expresses its sympathy to the families of those killed as a result of their involvement in the democracy protests in the People's Republic of China;

(2) commends those involved in the democracy movement for their courage and determination, and recognizes their great personal risk in seeking democracy for the people of the People's Republic of China;

(3) urges the Government of the People's Republic of China to release all persons detained for the peaceful expression of their views and to refrain from persecuting democracy movement participants; and

(4) calls on the Government of the People's Republic of China to respect internationally recognized human rights, including freedom of expression, assembly, and association.

The SPEAKER pro tempore. Is a second demanded?

Mr. BROOMFIELD. Mr. Speaker, I demand a second.

The SPEAKER pro tempore. Without objection, a second will be considered as ordered.

There was no objection.

The SPEAKER pro tempore. The gentleman from New York [Mr. SOLARZ] will be recognized for 20 minutes, and the gentleman from Michigan [Mr. BROOMFIELD] will be recognized for 20 minutes.

The Chair recognizes the gentleman from New York [Mr. SOLARZ].

Mr. SOLARZ. Mr. Speaker, I yield myself such time as I may consume.

Mr. Speaker, permit me to begin by paying tribute to my very good friend, the author of the resolution, the distinguished gentleman from Pennsylvania [Mr. YATRON], who unfortunately could not be with us today but who is engaged in pressing business at this very moment dealing with the subject matter of this resolution. I think he deserves the appreciation of all the Members of the House for his initiative in drafting this resolution and in facilitating its expeditious consideration by the Committee on Foreign Affairs and in turn making it possible for us to bring it to the floor in such a timely fashion.

Next week we will be observing the first anniversary of the massacre in Tiananmen Square, which brought a temporary end to what may well have been the greatest movement for democracy in the history of our troubled and turbulent times. Who among us can possibly forget the stirring scenes we saw on our own television screens last spring when literally millions of Chinese—not just students but workers and bureaucrats and men and women from all walks of life—not just in Beijing but in cities all across China took to the streets in order to participate in peaceful protest for democracy. They were not throwing stones, they were not hurling Molotov cocktails, they were not brandishing Kalishnikovs. They were merely standing up and peacefully protesting for greater democratization and for an end to the pervasive corruption which exists today in the People's Republic of China. And after several weeks the gerontocracy which is now in power in the People's Republic of China decided to respond to the democratic aspirations of their people not with reconciliation, not with pledges and promises of progress toward democracy, not by a commitment to crack down on corruption, but by a massive repression spearheaded by the slaughter of what may one day turn out to have been thousands of their own people, who were gunned down and massacred in cold blood in and around the vicinity of Tiananmen Square.

Since that time the repression in China has deepened. We have reason to believe, based on the estimates of respected human rights organizations like Asia Watch and Amnesty International, that tens of thousands of Chinese remain in prison today, primarily because of their willingness to identify with the movement for democracy in China last spring.

Torture is by no means unknown. China still continues to jam the broadcasts of the Voice of America. While some cosmetic improvement have been seen in the sense that martial law has been lifted in Lhasa, the capital of Tibet, and Beijing, the capital of the country, and while several hundred political prisons have been released, the reality of oppression remains.

□ 1250

This resolution today, Mr. Speaker, pays tribute to those Chinese who were willing to put their lives, their fortunes, and their sacred honor on the line last spring on behalf of many of the same principles for which our Founding Fathers were prepared to put their lives, their fortunes, and their sacred honor on the line over 200 years ago.

I have no doubt that one day the principles and ideals for which the Chinese students and others sacrificed their lives last June will one day be realized, and I think it is terribly important in the interim that the people of China know that the United States stands on the side of democracy rather than of dictatorship in their country, that we support a process of reconciliation rather than a policy of repression.

So, in the text of this resolution we express our sympathy to the families of those who were killed as a result of the crackdown. We commend the courage and the conviction of those who were willing to take such great risks on behalf of a more open and pluralistic China.

We urge the Government of the People's Republic, if they are at all willing to listen, to release, not just a few hundred, but all of those who remain in prison, not because of any acts of violence, but simply because they were willing to stand up and speak out for democracy. We call upon the Government of China to respect the internationally recognized human rights of their own people, including the freedom of expression, assembly, and association.

A little bit later in the week the President of the United States is going to have to make a very important decision about whether or not to continue most-favored-nation tariff status for China. I very much hope that this decision can be made in a way which facilitates the emergence of broad bipartisan support in the Congress for the decision the President decides to make.

I think it is important, if at all possible, for us to speak with one voice. I think it was fortunate last year that for many months the President and the Congress were not singing from the same hymnal. We are always most effective abroad when we are united at home, and I think the President does have an opportunity to use this decision with respect to MFN to bring us together here in our own country so that we can speak to China with one voice.

Mr. Speaker, that implies that whatever decision he makes, it is done in a way which makes it absolutely clear that the United States is attempting to help those who are in the forefront of the struggle for political and economic reform in China and that the United States will not resume a business-as-usual relationship with a government which continues to systematically violate the fundamental human rights of its own people.

However, Mr. Speaker, if this decision is going to be made in a way which makes it possible for all of us to come together, it is going to require consultation. I regret to say that, even at this very late moment, with the decision only days or, perhaps, even hours away, so far as I know, none of the Members of Congress who has been most actively involved in the effort to shape a response to the repression in China which is compatible with the fundamental principals and interests of our own country, has yet heard anything either from the President or his chief advisers on this issue. I do not know if anybody downtown is observing this debate or listening to what will be said on the floor during the course of the consideration of this resolution. But it is still not too late to reach out because there are people here on both sides of the aisle who would like to work with the administration in order to shape a response which is consistent with our ideals and which is compatible with our interests.

However, Mr. Speaker, I do not think the President or the administration should be under any illusions. If this issue is not handled in an appropriate way, it will set the stage for

what will be, I think, a very divisive debate here in the Congress, not on a partisan basis by the way. I am pleased to say that, when we passed the bill to impose sanctions against China last year, the 418 Members of the House voted in favor of it, and no one voted against it. Here in the Congress, Democrats and Republicans were acting in unison, and I think it was unfortunate at the time that we did not have the President with us because that would have meant the message we sent to China would have been heard even more clearly.

Now we are back again at the same old China stand, and I only hope that this time we can work together. But whatever the President decides to do, this resolution, which does enjoy the support of the Republicans as well as Democrats, should make it very clear, both to the leaders in Beijing and to the Chinese people throughout that great country, that the House of Representatives admires what they tried to achieve last year and remains strongly committed to the great cause of democracy for which they sacrificed so much last June.

Mr. BROOMFIELD. Mr. Speaker, I yield myself such time as I may consume.

First of all, Mr. Speaker, I would like to join with the gentleman from New York [Mr. SOLARZ] in paying tribute to the gentleman from Pennsylvania [Mr. YATRON], the principal sponsor of this legislation. This gentleman from Pennsylvania, of course, has been interested in human rights for ever since he has been a Member of this Congress, and he has done a yeoman's job. I also want to join the gentleman from New York [Mr. SOLARZ] in paying tribute to him.

We have a number of sponsors along with the gentleman from Pennsylvania [Mr. YATRON]. The gentleman from Florida [Mr. FASCELL], of course the chairman of the Committee on Foreign Affairs, has been very active along with the gentleman from New York [Mr. SOLARZ], the gentleman from Utah [Mr. OWENS], the gentleman from Ohio [Mr. FEIGHAN], the gentleman from New York [Mr. ACKERMAN], the gentleman from Washington [Mr. MILLER], the gentleman from New York [Mr. WEISS], the gentlewoman from California [Ms. PELOSI], the gentlewoman from Kansas [Mrs. MEYERS], the gentleman from New York [Mr. GILMAN], and myself are the principal sponsors of this resolution.

Mr. Speaker, it has been nearly a year since Chinese troops rolled their tanks into Tiananmen Square and killed hundreds, and possibly thousands, of democracy demonstrators. The vivid memory of military brutality and wholesale carnage suffered by the peaceful demonstrators has not been dimmed by the passage of time.

Since the massacre at Tiananmen Square, President Bush has gone more than the extra mile to encourage the Chinese leadership to end oppression and begin observing basic human rights. Even the President concedes that the Chinese response has been far from satisfactory.

Instead, we have seen continued efforts to hunt down and arrest those suspected of participating in last June's democracy demonstration. There have been harsh warnings and stern measures designed to suppress normal political activity or criticism of the Beijing regime. And, as Congress prepares to examine this important issue, we have been subjected to a cynical attempt to manipulate this body by the lifting of martial law in Beijing and Tibet while in fact the oppression continues unabated.

Mr. Speaker, despite the efforts of Beijing's government to crush democracy in China, they have failed. They currently control the reins of power, and oppression continues; but they have not defeated the democracy movement. The ideal of democracy endures in the hearts of the Chinese people, even during this dark period of brutal repression.

House Concurrent Resolution 393 pays tribute to the courage and dedication of the Chinese people and recognizes the inner strength of the democracy movement. It further calls upon the Government of China to recognize the legitimate aspirations of the people that were suppressed during the brutal assault at Tiananmen Square last June.

As an original cosponsor of this resolution, I thank Chairman FASCELL, and Congressmen YATRON and BEREUTER for their leadership in moving House Concurrent Resolution 393 to the floor, and urge my colleagues to support its passage.

□ 1300

Mr. Speaker, I yield 1 minute to the gentleman from California [Mr. LAGOMARSINO], a member of the Committee on Foreign Affairs.

Mr. LAGOMARSINO. Mr. Speaker, I thank the gentleman for yielding me this time.

Mr. Speaker, I want to commend the gentleman from Pennsylvania [Mr. YATRON], as well as the gentleman from New York [Mr. SOLARZ]; the chairman of the full committee, the gentleman from Florida [Mr. FASCELL] and, of course, the gentleman from Michigan [Mr. BROOMFIELD] for bringing this resolution before us.

The thing that is so different about what happened in Tiananmen Square compared to what had been going on in China for many years, where it is estimated that tens if not scores of people have been killed by the Red Chinese, is that it was done in the open. There were television cameras there. It was all recorded for all of us to see and watch and observe.

I think that it is important for us to remind not only those who are fighting for democracy in China, both in China and those who are here in the United States of Chinese extraction, but to remind the Chinese leadership as well that we have not forgotten and we will not forget and that we do stand very strongly by those who are fighting for democracy.

Hopefully they will get the message. China is one of the few places left in the entire world where the message apparently has not gotten through.

So, Mr. Speaker, again I want to commend everyone who has brought this resolution before us and I urge my colleagues to support it.

Mr. BROOMFIELD. Mr. Speaker, I yield 3 minutes to the gentleman from New Jersey [Mr. SMITH], a member of the Committee on Foreign Affairs.

Mr. SMITH of New Jersey. Mr. Speaker, I thank my friend, the ranking member, for yielding this time to me.

Mr. Speaker, I want to join with my colleagues in the accolades to the gentleman from Pennsylvania [Mr. YATRON], who has shown himself as chairman of the Human Rights Committee to be very even-handed and committed to principle. As chairman, he has helped expose the kind of atrocities we see going on throughout China, perpetrated by both the left wing and the right wing, the communists as well as the hard right. We have had a very active agenda and as a member of that committee, I want to commend the gentleman from Pennsylvania [Mr. YATRON] for his very effective leadership on these issues.

Mr. Speaker, today the House goes on record again deploring the slaughter of the prodemocracy students in Tiananmen Square. We also express our deepest sympathies to the families of those deceased patriots.

A brutal crackdown continues, Mr. Speaker, as we all know. Freedom-loving students are hunted, they are jailed, they are beaten, and they are tortured.

Mr. Speaker, last week in a hearing in the Foreign Affairs Committee we heard from one of the leaders of the student movement in this country, Dr. Haiching Zhao, the chairman of the National Committee on Chinese Student Affairs. His testimony was very moving. It was very eloquent. I would like to quote very briefly from it. Dr. Zhao said:

> Less than one year ago the world watched in horror as participants in the democracy movement in China were brutally massacred and suppressed by the current regime. We were all shocked and appalled to see troops fire indiscriminately upon peaceful protesters and curious onlookers alike. Thousands of unarmed civilians were killed, and many more injured last June. In the aftermath,

scores of young activists were summarily executed. Thousands upon thousands of political prisoners were detained, without trial or access to legal counsel. These prisoners underwent brutal interrogations, and many suffered severe beatings with electric batons and rifle butts.

The gross violations of human rights did not end with the events in Tiananmen Square. Today, de facto martial law exists in Beijing and Tibet and a repressive atmosphere lies heavily over the rest of the country. The central government will not tolerate the exercise of even the most basic political and civil rights.

Mr. Speaker, as they have in the past, the Communist hardliners in Beijing, and I do not think we should kid ourselves by suggesting that hardliners in Beijing are anything but an old commodity, they are not a new commodity; there have been hardliners there since the Communist revolution, but they continue to demonstrate to the world that the health and the well-being of the individual is of no consequence. It is truly a fact that people in that country are accorded little or no value. They do not count for much in the eyes of the hardliners. They are important only as far as their utility and their blind obedience to party dictates will go.

The People's Republic of China clearly makes a mockery of human rights.

Mr. Speaker, I would suggest and I think all of us would agree that the hardliners in Beijing have much to account for. The have demonstrated their callousness and extreme hate during the cultural revolution and they continue to demonstrate that toward women and children in their brutal implementation of the one child per couple policy.

I would point out to my colleagues that just last week on human rights, we have seen they are indivisible. When we speak of the massacre in Tiananmen Square, the crackdown on religion, the crackdown on the people of Tibet, we should also remember another human rights abuse that very often goes largely unnoticed, and that is the iron-fisted population control program.

I would recommend to my colleagues a book just published by Dr. John Aird, the former senior research analyst for the Census Bureau, entitled "Slaughter of the Innocents," in which he recounts in great detail the repression that is being visited upon the women in China as a result of this one child per couple policy.

I will include a book review on this contained in the Wall Street Journal of May 14, 1990, at this point.

[From the Wall Street Journal, May 14, 1990]

CHINA'S IRON-FISTED POPULATION CONTROL

(By R. Cort Kirkwood)

In September 1987, an expectant Chinese couple temporarily residing in the U.S. received a note from a factory back home where the wife worked. It wasn't a baby shower invitation.

The Walfantia Bearing Factory warned the couple that their pregnancy was unauthorized and that everyone from "the factory director . . . to the cadres in charge of the birth control program" would be punished if the baby was born. Because the "consequences for you are unthinkable," the factory authorities ominously warned, "you should . . . fix your problem any way you can. You must not delay! If you have real difficulties, return to China immediately for an abortion. . . ."

This international direct-mail program is just one of the dark aspects of the Chinese Communist Party's ferocious population-control effort, and just one of the grim details John Aird, the Census Bureau's former authority on China, provides in "Slaughter of the Innocents" (The American Enterprise Institute for Public Policy Research, 191 pages, $16.95).

Far from being a blessed event, nearly every birth in China is viewed with a jaundiced eye because it might violate the population policy, which evolved during some 30 years after Mao Tse-tung broke with traditionally optimistic Marxist thinking on large populations.

"It is a very good thing that China has a big population," Mao wrote in 1949. "Of all the things in the world, people are the most precious." But as the utopian vision of a communist Promised Land faded away, Mao was less prepared to let a thousand flowers bloom. By 1955 he was warning that unfettered population growth could lead to the "extinction" of the Chinese race.

Thus he set in motion a program to help the Chinese overcome their "feudal mentality" and "conservative tendency" toward large families and adopt "birth plans." Yet even under Mao's iron fist, birth-control efforts in China during the 1950s and 1960s were fairly mild.

Then in the 1970s a new anti-natalist campaign required local authorities to make planned parenthood and birth control part of the "class struggle." Opponents became (and today remain) "class enemies." Mr. Aird writes, and Beijing's birth directives grew increasingly more draconian. In 1979, with China's population taking a great leap forward, the authorities explicitly defined the state's interest: zero population growth by the year 2000.

Mr. Aird convincingly shows that China's government has been willing to do just about anything to reach that goal, justifying their efforts with the neo-Malthusian idea that people inhibit economic growth. That Hong Kong supports a vastly denser population is clearly of no interest to functionaries pursuing an economic system that is in fact directly responsible for China's woes. "Whether we can strictly control population growth," Mr. Aird quotes the People's Daily, "will directly determine whether we can smoothly achieve our economic development objectives." And so the Forbidden City's geriatric potentates prohibit "early marriages, early births" and decree forced sterilization and compulsory abortion. "Use whatever means you must," Deng Xiaoping urged in 1981, "but do it."

Far from stopping at hugh fines and cutting off a family's water and electricity supply for begetting an unauthorized child, the Communist Party has outlawed removing an intrauterine device. And while pregnant Chinese nationals living abroad receive letters urging abortions, women on the home front are treated to "study classes" and "heart-to-heart" talks during which birth control cadres press them into an abortion, followed by IUD insertion or sterilization.

Doctors now storm through villages on abortion and sterilization raids. To preserve the "happy peace" that state-sponsored birth-control efforts bring to the people, Mr. Aird writes, china has even "destroyed infants by injections of alcohol into the fontanel" and by stuffing gauze into their mouths.

The population control lobby will no doubt condemn "Slaughter of the Innocents" not only for the beam it shines on China's program, but also because Mr. Aird attacks this group in the book's opening chapter. Even as Chinese authorities committed mass infanticide, the United Nations Population Fund enthusiastically bestowed awards and money on a program it averred was "totally voluntary." Others less sanguine about China's zealous quest merely call the program "agressive" or "rigorous."

But as recently as last year, China permitted the publication of articles demanding coercive sterilization and compulsory abortion for all women under 24, all second pregnancies spaced less than five years after the first and all third pregnancies.

John Aird deserves acclaim not only for his painstaking academic research on a difficult subject, but also for dispassionately exposing China's brutal methods. The question is whether the population control movement that has championed China's model will learn something from it.

[From the Chicago Sun-Times, May 13, 1990]

CHINESE COUPLE FLEEING ABORTION WIN PERMISSION TO STAY IN UNITED STATES

(By Alan Flippen)

BUFFALO, NY.—The State Department has ruled that a Chinese couple who fled their homeland's forced abortion policy qualify for refugee status, clearing the way for them to receive political asylum, their lawyer said Friday.

Li Jin Lin and his wife, Wang Sai Zhen, are the first known cases to test President Bush's Nov. 30 directive that grants asylum to people fleeing forced abortions or sterilizations in their native countries.

They had been awaiting a U.S. Immigration and Naturalization Service hearing that would decide whether they could stay in the United States, but the State Department ruling ended the proceedings against them, said Kathleen Rimar, the couple's lawyer.

The State Department letter said they qualify for refugee status under federal law but did not specifically mention abortion.

Li, a 37-year-old machinist, and his 34-year-old wife fled their hometown of Fuzhou last year when Wang became pregnant with what would have been the couple's second child. Chinese law limits most families to one child and requires women who conceive again to undergo abortions.

Mr. Speaker, finally I just want to say that this resolution keeps this issue in the minds and in the hearts of the American people, and it particularly keeps it in focus for the Congress. We need to raise this issue of the democracy students over and over.

I would suggest that as we look forward to the MFN struggle, whether or not MFN should be continued for China, I am one of those who is a

sponsor of legislation that would suspend it, we need to figure out and craft what we hope will be the best policy to try to put the pressure on the hardliners in Beijing so that human rights will be recognized for all.

Mr. YATRON. Mr. Speaker, many Members of the House are aware that it will soon be 1 year since the Chinese authorities ordered the bloody crackdown on peaceful democracy demonstrators in Beijing. The current Chinese regime showed its true colors by using indiscriminate lethal force against peaceful demonstrators.

We were shocked by the images of June 4 and disappointed that the China we thought was on a path of reform had changed very little from the China of Mao Zedong. The Chinese leadership made its real fears known on June 4—that it is afraid of the free will of the Chinese people. This regime has proven that it will use any amount of force to maintain its ill-gotten power.

I have introduced House Resolution 393 to mark the first year anniversary of the military crackdown on the democracy movement in China. The events of June 4, 1989, are too powerful to forget and too many young lives were lost.

This resolution commends the democracy movement participants for their courage and determination in seeking democracy not only for themselves, but for every person in China. Moreover, this resolution urges the Chinese Government to release all political prisoners, refrain from persecuting democracy movement participants, and to respect internationally recognized human rights. House Resolution 393 also expresses our sympathy to the families of those who died for democracy.

Mr. Speaker, I commend the chairman of the Foreign Affairs Committee, Mr. FASCELL, and the committee's ranking minority member, Mr. BROOMFIELD, for expediting this resolution. I would also like to thank Mr. BEREUTER, Mr. SOLARZ, and Mr. LEACH for their leadership on human rights issues and for their prompt consideration of this resolution so we could report it in a timely fashion before the Memorial Day recess.

Mr. GILMAN. Mr. Speaker, I rise in strong support of House Resolution 393, legislation concerning the first anniversary of the Tiananmen Square massacre of June 4, 1989, in the People's Republic of China.

It is well known that the killings, torture, and repression of prodemocracy supporters continue unabated in the People's Republic of China and occupied Tibet. As the anniversary of the slaughter in Tiananmen Square draws closer, it is appropriate that our Nation review our present China policy. The sanctions put in place by the Congress in response to the repression have had no affect on the ruling authorities in the People's Republic of China. They continue their search for participants in the prodemocracy movement in order to severely punish them, they continue to support the Khmer Rouge and they continue to sell missiles to hostile nations in the Middle East.

It is abundantly clear that the leaders in Beijing have received the wrong sort of message from the United States and its allies. They do not feel that the West has yet to respond strongly to the ongoing repression in the People's Republic of China and in Tibet.

There are currently 40 cosponsors of legislation which would deny most-favored-nation status to the People's Republic of China. I hope that China's rulers will soon receive a clear message on just how strongly Americans feel about human rights and democratic freedoms.

Accordingly, I urge my colleagues to fully support House Resolution 393.

Mr. LAGOMARSINO. Mr. Speaker, as a cosponsor of House Resolution 393, I rise in strong support of this important resolution recounting the tragic, brutal events in Tiananmen Square last June and urging the People's Republic of China to take immediate steps toward political reform and Improvement of human rights.

Unfortunately, this is not the first time the Communist Chinese dictatorship has massacred the Chinese people it claims to represent. The People's Republic of China Government has a very long and bloody history of oppressing those wanting democracy, basic human rights, freedom and liberty. Tens, if not scores, of millions of Chinese have been murdered by the Communists since their takeover in 1949. However, unlike the brutal masacres of the past—like the great purges of the so-called cultural revolution—the terror in Tiananmen Square was witnessed by millions of television viewers around the world. The real brutal nature of the Communist regime in China was brought into our living rooms and kitchens through the media. We have justifiably reacted with great outrage and disgust against these cruel actions.

As a senior member of the House Foreign Affairs Committee, I have joined in many measures that have passed the House in strongly condemning the actions of the Communist authorities and in strongly supporting the movement for more democracy and freedom. I supported strict sanctions against the People's Republic of China following the massacre in Tiananmen Square and supported legislation providing special protection to Chinese students here in the United States.

I believe this resolution, reconfirming the United States House of Representative's condemnation of the Tiananmen Square massacre; calling on the People's Republic of China to respect internationally recognized human rights—including freedom of expression, assembly, and association; urging the People's Republic of China to release all persons detained for the peaceful expression of their views; commending those involved in the democracy movement for their courage, determination and the taking of great personal risk; and expressing sympathy to the families of those killed as a result of their involvement in the democracy protests is important. It reminds the Communist Chinese Government that Congress has not forgotten—we are still watching and will take actions based on the real situation in China today.

I am encouraged that some small steps have been taken. However, I believe these are only token measures designed for positive congressional consumption. Well, I will not be fooled. Much more needs to be done by the People's Republic of China Government. If the Chinese Government seeks an improvement in relations—including economic and trade relations—it is going to have to positively and seriously address all of the pressing issues raised in this resolution.

I want to take this opportunity to commend Congressmen SOLARZ and YATRON, the chairmen of the Subcommittees on Asian Affairs and Human Rights, respectively, full committee Chairman FASCELL and full committee Vice Chairman BROOMFIELD for crafting this resolution and moving it expeditiously through the Foreign Affairs Committees and to the House floor.

Again, I strongly support this resolution and urge my colleagues to join me in passing it today. Thank you.

Mr. FASCELL. Mr. Speaker, I rise in strong support of House Resolution 393, recognizing the first anniversary of the June 4 Tiananmen Square massacre when at least several hundred, and quite possibly many more Chinese citizens peacefully demonstrating for democracy were cruelly killed by People's Liberation Army soldiers.

It is a sad day for us as we commemorate this tragic event. At a time when we are encouraged by the emergence of democracy in many countries in Eastern Europe and Latin America, we hear reports from many sources of continued violations of internationally recognized human rights in China. In the year since the tragic events of June 1989 repression continues throughout China and many thousands of citizens continue to be detained without trial because of their participation in the democracy movement.

I commend Representative YATRON for his leadership in bringing this resolution to the floor of the House. I join with him and other colleagues in urging the release of those detained for their participation in the democracy movement and in calling on the Government of the People's Republic of China to respect internationally recognized human rights. Passage of this resolution provides us with one more opportunity to convey to the Government of China our strong distaste with their represssive policies.

Mr. MATSUI. Mr. Speaker, I would like to add my ardent support for House Resolution 393, and I thank the Speaker and the Foreign Affairs Committee for bringing this resolution to the floor in such a timely manner.

I know my colleagues will agree that there is no joy in our gathering to remember the massacre that took place in Tiananmen Square on June 4, 1989. There is nothing to celebrate. There has been almost no improvement in the deplorable human rights conditions in China and no reprieve to the suppression of democracy in that country.

The events of June 4 are well known around the world despite the silence of the Government and the repression of the press in China. What is perhaps not as well documented or publicizied is the campaign of punishment and persecution that the Government has waged upon its people since that fateful day last year.

Of course, it is important for us to recognize those who perished in the square defending their right to democratic reforms; those who were prosecuted and killed in the days following the massacre; and those who are continu-

ing that struggle in the face of the brutality inflicted upon their fallen comrades.

If democracy is ever to prevail in China, it will require the assistance and encouragement of the United States. Hopefully, our token of recognition today will spur on those committed to the democracy movement in China, and will make crystal clear to the Government of China on which side the United States comes down in this conflict.

Mr. Speaker, it is important that we remain attentive to the situation in China as it continues to evolve. Therefore, it is fitting that we pass this resolution as a vigil to the democracy movement in China. I commend Chairman FASCELL for his leadership on this measure, and I urge my colleagues to join me in supporting the resolution.

Mr. PORTER. Mr. Speaker, I rise in strong support of House Resolution 393, concerning the first anniversary of the Tiananmen Square massacre. I commend my colleague, GUS YATRON, for his advocacy of human rights in China and in other parts of the world.

We are here today to pay tribute to the students—those who bravely participated in a hunger strike last year in Tiananmen Square and those who commemorated their peaceful struggle for democratic reforms on Sunday, May 13.

In Tibet, like Tiananmen Square, students who have dared to speak out against Chinese repression have also faced open repression and violence.

There is one thing that these students know that the aged Chinese leadership does not realize—the desire for human rights cannot be suppressed by bullets and tanks.

The brutal dictators in Beijing whose power rests on the threat of crackdown will do all that they can to prevent the outbreak of freedom in China.

Despite lifting martial law, they will continue to imprison anyone for peacefully demonstrating against their regime. They will continue to harass and intimidate prodemocracy activists. They will continue to hold some 30,000 political prisoners without due process. They will continue to repress all forms of religious, political, social, and economic expression in the defense of Communist principles and Marxist ideology.

In Tibet, they will continue to repress the religious and political activities of Tibetans whose only desire is to live without oppression.

However, as the world knows, the leaders of Beijing are living on borrowed time.

Mr. Speaker, the Congress and the American people stand with the students who on May 13 commemorated National Day in Support of Freedom and Human Rights in China and Tibet.

We will also express our support for the Chinese students as they commemorate the anniversary of the military crackdown that crushed their peaceful drive for democracy in Tiananmen Square on June 3.

One of America's greatest legacies is the foundation we have established towards respecting fundamental freedoms and human rights.

It is up to us to uphold that legacy in other parts of the world, like China and Tibet, whenever freedom-loving people encounter resistance from wornout repressive governments.

The students who spoke out for their rights in Tiananmen Square and those who continue in their efforts are the future of China and I salute them for not giving up in the face of tyranny.

One day, democracy will come to China and I expect that day will be soon.

Mr. HOYER. Mr. Speaker, today I rise in strong support of House Resolution 393, a sense of the Congress resolution expressing sympathy to the loved ones of the hundreds, perhaps thousands of Chinese prodemocracy demonstrators killed by their own Government nearly 1 year ago.

In addition to the expression of sympathy, House Resolution 393 recognizes and commends those people who participated in the prodemocracy demonstrations, and urges the Chinese Government to release all demonstrators who have been detained for taking part in the protest.

Mr. Speaker, June 4 will mark the 1st anniversary of the Tiananmen Square massacre. We have all heard the widespread reports that once the disturbance was quelled, hundreds more demonstrators were executed simply because they chose to express their support for freedom and democracy. As Americans, sometimes we take the system of democracy and the rights guaranteed to us by the Constitution for granted. We do not spend enough time reflecting on the fact that these are rights for which wars were fought and many lives lost. We continue to fight to preserve these rights today but we are protected from retribution by the freedom mandated by our system of government.

In the year since the Tiananmen Square tragedy we have seen numerous East European countries fight for the right to exist independently and the right to be governed by a democratic system of government. Yes, some of these rights were attained by bloodshed and lives were lost in order to achieve progress but the same cannot be said for the prodemocracy demonstrators in China. They have not yet made any progress. Let us recommit ourselves that the lives that were lost were not lost in vain.

Mr. Speaker, the Chinese Government has not apologized for the atrocities that they committed in Tiananmen Square nor for the brutal castigation of those persons suspected of participating in the demonstrations. The Congress of the United States is appealing today to the Chinese Government to respect the human rights of their people by releasing all of those people imprisoned for peacefully demonstrating in favor of freedom and democracy. I urge all of my colleagues to remember the images of horror and terror we saw nearly 1 year ago and support the resolution before us today by voting to pass this legislation and to remember the courage of the people of Tiananmen.

Mr. FALEOMAVAEGA. Mr. Speaker, today I join my colleagues in support of House Resolution 393, which was introduced by Chairman GUS YATRON and cosponsored by several of my distinguished colleagues. House Resolution 393 marks the first anniversary of the Tiananmen Square massacre, which took place on June 4, 1989, in the People's Republic of China.

Mr. Speaker, last June the people of the world witnessed the Government of the People's Republic of China violently suppress student protests for democracy in Tiananmen Square.

Since that dark day, the Chinese Government has not expressed their regret about the loss of life or the way they handled the popular movement.

In fact, the Chinese Government has attempted to blame this popular movement as the work of a few counterrevolutionaries receiving outside financial support.

Today, the Chinese Government continues its repressive policies and gross violations of human rights. Furthermore, political repression has not ceased.

Mr. Speaker, House Resolution 393 will send a clear and strong message to the Government of the People's Republic of China that the Tiananmen Square massacre will never be forgotten in the minds of the people and that the Chinese Government cannot continue its repressive policies and human rights violations without international indignation.

Mr. BROOMFIELD. Mr. Speaker, I have no futher requests for time, and I yield back the balance of my time.

Mr. SOLARZ. Mr. Speaker, I have no further requests for time, and I yield back the balance of my time.

The SPEAKER pro tempore (Mr. WHITTEN). The question is on the motion offered by the gentleman from New York [Mr. SOLARZ] that the House suspend the rules and agree to the resolution, House Resolution 393.

The question was taken; and (two-thirds having voted in favor thereof) the rules were suspended and the resolution was agreed to.

A motion to reconsider was laid on the table.

GENERAL LEAVE

Mr. SOLARZ. Mr. Speaker, I ask unanimous consent that all Members may have 5 legislative days within which to revise and extend their remarks and include therein extraneous material on House Resolution 393, the resolution just agreed to.

The SPEAKER pro tempore. Is there objection to the request of the gentleman from New York?

There was no objection.

AUTHORIZING THE SECRETARY OF THE AIR FORCE TO PURCHASE CERTAIN PROPERTY AT PEASE AIR FORCE BASE, NH

Mr. BENNETT. Mr. Speaker, I ask unanimous consent that the Committee on Armed Services be discharged from further consideration of the bill (H.R. 4252) to authorize the Secretary of the Air Force to purchase certain property at Pease Air Force Base, NH, and ask for its immediate consideration in the House.

The Clerk read the title of the bill.

The SPEAKER pro tempore. Is there objection to the request of the gentleman from Florida?

There was no objection.

The Clerk read the bill, as follows:

H.R. 4252

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. PURCHASE AT PEASE AIR FORCE BASE, NEW HAMPSHIRE

(a) AUTHORITY.—Subject to subsections (b) through (f), the Secretary of the Air Force may purchase all right, title, and interest of members of the Air Force and their spouses in mobile homes located on the base mobile home park at Pease Air Force Base, New Hampshire, on January 1, 1989, and not moved from the base since that time.

(b) AMOUNT OF PAYMENT.—Payment shall be in an amount established by the Secretary, in his discretion, but shall not exceed an amount equal to the sum of—

(1) the initial downpayment by the member;

(2) purchaser closing costs for nonrecurring items;

(3) the current balance on a purchase money mortgage; and

(4) any second mortgage balance which the Secretary determines is attributable to purchase of the mobile home or a capital improvement thereto,

reduced by any reduction made under subsection (c)(2).

(c) DISPOSAL OF MOBILE HOMES.—The Secretary may, subject only to the provisions of this section—

(1) sell, donate, trade, or otherwise dispose of any mobile home acquired under authority of this section; or

(2) permit the member to retain the mobile home for removal from Pease Air Force Base, with an appropriate reduction for the value of the mobile home as personal property from the amount otherwise payable under subsection (b).

(d) SOURCE OF FUNDS.—(1) The payments authorized by subsection (a) shall be made from the Department of Defense Base Closure Account established by section 207 of the Defense Authorization Amendments and Base Closure and Realignment Act (Public Law 100-526; 102 Stat. 2623).

(2) Proceeds of any leasing sale, or other disposal of the mobile homes shall be deposited into the Department of Defense Base Closure Account.

(e) OTHER TERMS AND CONDITIONS.—The Secretary shall require such other terms and conditions on any purchase or disposal under this section that are in the best interests of the United States.

(f) REPORTS.—(1) The Secretary shall report to Congress within 180 days after the date of enactment of this section, and at the end of each 180-day period thereafter, on the implementation of this section.

(2) No other requirement of law for reports to Congress on real property transactions shall apply to actions carried out under this section.

AMENDMENT IN THE NATURE OF A SUBSTITUTE OFFERED BY MR. BENNETT

Mr. BENNETT. Mr. Speaker, I offer an amendment in the nature of a substitute.

The Clerk read as follows:

Amendment in the nature of a substitute offered by Mr. BENNETT: Strike all after the enacting clause and insert in lieu thereof the following:

SECTION 1. PEASE AIR FORCE BASE, NEW HAMPSHIRE.

(a) IN GENERAL.—Subject to subsections (b) through (e), the Secretary of the Air Force may——

(1) make payment pursuant to subsection (b) to purchase all right, title, and interest of members of the Air Force and their spouses in manufactured housing located at the base manufactured housing park at Pease Air Force Base, New Hampshire, on January 1, 1989, and not moved from the base since that date; or

(2) make payment pursuant to subsection (b) and take action described in subsection (c)(2) with respect to such housing.

(b) AMOUNT OF PAYMENT.—Subject to subsection (c)(2), the Secretary shall establish the amount of the payment to be made under this section, but such amount shall not exceed—

(1) 90 percent of the member's purchase price of the manufactured housing; or

(2) if elected by the member, the amount of the outstanding mortgages on such housing that are attributable to purchasing the manufactured housing or making a capital improvement thereto.

(c) DISPOSAL OF MANUFACTURED HOUSING.—The Secretary may, subject only to the provisions of this section——

(1) sell, donate, trade, or otherwise dispose of any manufactured housing acquired under authority of this section; or

(2) permit the member to retain the manufactured housing for removal from Pease Air Force Base, with an appropriate reduction for the value of the manufactured housing as personal property from the amount otherwise payable under subsection (b).

(d) SOURCE OF FUNDS.—The payments authorized by subsection (a) shall be made from funds appropriated for operation and maintenance of the Department of the Air Force for any fiscal year.

(e) OTHER TERMS AND CONDITIONS.—The Secretary shall require such other terms and conditions on any payment made under this section that are in the best interests of the United States.

Mr. BENNETT (during the reading). Mr. Speaker, I ask unanimous consent that the amendments in the nature of a substitute be considered as read and printed in the RECORD.

The SPEAKER pro tempore. Is there objection to the request of the gentleman from Florida?

There was no objection.

Mr. BENNETT. Mr. Speaker, the amendment in the nature of a substitute on H.R. 4252 would authorize the Secretary of the Air Force to purchase 50 mobile homes owned by military personnel at Pease Air Force Base, NH, which is in the process of being closed. This legislation is necessary to prevent the owners of these trailers from having to declare bankruptcy through no fault of their own. The Department of Defense supports the amendment in the nature of a substitute.

Mr. ASPIN. Mr. Speaker, as you may know, DAVE MARTIN has asked for our help in expediting action on H.R. 4252, a bill to authorize the Secretary of the Air Force to purchase certain property at Pease Air Force Base, NH. DAVE introduced this bill in order to help roughly 50 airmen at Pease Air Force Base who are caught in a unique Catch-22 related to the purchase of their mobile homes.

Here's the problem: because of a peculiarity in New Hampshire State law, some 50 trailers owned by airmen and their families at Pease Air Force Base cannot be moved from their current site. This was not a problem until recently, given that when one airman transferred to another duty station, there was always another waiting to buy the first airman's mobile home. The Air Force, in fact, waived certain regulations pertaining to these Pease mobile homes, which inadvertently had the effect of greatly inflating the price of the trailers as they were resold over time. The bottom fell out when the Department announced that Pease would close—making the trailers virtually worthless. Now 50 airmen face bankruptcy on large mortgages unless the Air Force is given the authority to buy back the trailers.

The Air Force and the Department of Defense agree that this situation is untenable, that the Air Force is, in part, responsible for creating the problem and that the airmen should be helped. The attached letter from Secretary Cheney provides additional details and concludes that legislative relief is in order.

DAVE would like to ask unanimous consent to waive the rules requiring the reporting of the bill and ask that it be considered by the House on Monday, May 21. Because this is a non-controversial bill with a special sense of urgency, I support this approach. In addition, BILL DICKINSON and PAT SCHROEDER have no objection to proceeding along this line.

Mrs. SCHROEDER. Mr. Speaker, I rise to congratulate DAVE MARTIN. He takes his job as ranking minority member of the Subcommittee on Military Installations and Facilities quite seriously. One way he does that is by putting in long hours to inspect military bases throughout the country.

Late last year, Congressman MARTIN went to see Pease Air Force Base, the first major installation actually to be closed under the recommendations of the 1988 Commission on Base Closure and Realignment. It takes a lot of guts for a member of Congress to visit a base in the process of closure. People at the base are often angry. But, DAVE MARTIN had the courage to serve as a Marine Corps aviator in Vietnam and he has the courage to visit closing military bases.

At Pease, Congressman MARTIN found a strange situation involving 50 military families and the mobile homes they had bought. With the base closed, there was no possibility of resale. And, because the situation involved mobile homes, traditional programs, like Homeowners Assistance, were inapplicable.

The Air Force bureaucracy knew of the problem but could not think of a way to solve it. DAVE MARTIN came up with the solution: the legislation before us today. It means that 50 enlisted Air Force kids will not face bankruptcy. At the same time, the legislation deals surgically with the problem DAVE MARTIN found. It effects no other base; it sets no precedent.

I congratulate DAVE MARTIN for his outstanding work.

□ 1310

Mr. BENNETT. Mr. Speaker, I yield to the gentleman from New York [Mr. MARTIN], the ranking Republican of the Subcommittee on Military Installations and Facilities, for further explanation of this amendment and bill.

Mr. MARTIN of New York. Mr. Speaker, a well-known quote by the distinguished gentleman from Alabama is "I don't have a dog in this fight." What I do have in this fight is a concern for 50 individuals who are not my constituents nor do they even live in my State. What I am trying to do today is what is right.

What is right is not to let the system forget 50 young dedicated Air Force individuals who, through no fault of their own, face the very real possibility of financial ruin and bankruptcy.

The Air Force, in their wisdom at the time, thought they were doing what was right by bending and altering their rules for the use of trailers at Pease AFB, NH. They changed the rules to help alleviate a critical shortage of affordable housing on and near the base. The Air Force allowed individuals who had brought trailers to Pease AFB to leave them in place on their departure and sell them to incoming personnel. Due to the overall shortage of affordable housing in this area, these trailers unjustifiably and unrealistically appreciated in value—some sold for over $50,000.

The Air Force should never have allowed this to happen. The lending institutions should have never allowed the inflated mortgages. And the Congress should not allow these 50 individuals to suffer the consequences of these poor judgments.

Normally, when a military base is closed there is a devaluation in property values. Congress recognized this problem and enacted the Homeowner's Assistance Act. This act has been in effect for a number of years and has worked well. Unfortunately, a trailer or manufactured home does not qualify under this act. It was assumed that those with trailers would simply hook them up and take them to their next duty station. Due to several local and State restrictions, the airmen at Pease AFB cannot do this—nor can they sell them on the local market, again due to State and local restrictions.

Changing the Homeowners Assistance Act to include trailers does not make sense as this is an isolated case. I can find no other similar situation—therefore a specific remedy is called for. This is indeed a unique situation.

That remedy is H.R. 4252. What this legislation does is as follows: The Air Force would be authorized to either, at the choosing of each individual, pay each trailerowner 90 percent of their purchase price—or—pay off all outstanding mortgages. If an individual has made a significant downpayment and lowered the amount of their existing mortgages—the 90-percent method should be the preferred option. On the other hand, if an individual is carrying a significant mortgage, or even a second mortgage used for improvements, the remaining mortgage payoff should be the preferred option. Again, the choice will be made by the owners of the trailers. The Air Force will then own the trailers and would sell them at the appropriate time with the very real possibility of recouping all of the payments.

Anyone who is familiar with the Homeowners Assistance Act could say this formula sounds familiar. It is familiar because this formula is loosely based on the same criteria contained in that act. What we are trying to do here is to be as fair as possible to these 50 individuals and treat them the same as we would if they were eligible under the existing law. I believe that this legislation is as fair as possible to the trailerowners and to the Government.

Let me say a few words as to why we need to expedite this legislation. Pease AFB is closing and will be shut down completely by December 31, 1990. The process is well under way. The Air Force began last January to reassign the people to other locations. This process is on a train going down hill and picking up speed. When reassignments come up for each 1 of these 50 trailerowners, they are faced with an unbearable burden. As they cannot sell or take their trailers with them, they are faced with either continuing to pay for them and also paying for housing at their new duty locations—or going bankrupt.

Most of us there in this Chamber know all too well what it is like to pay for two homes at the same time—think what it would be like for a young, low-ranking military member. The facts of life are that bankruptcy is the only alternative. Unfortunately, that alternative has already been taken by one of the owners. We cannot wait any longer—we must correct this problem quickly and effectively.

The Armed Services Committee has reviewed this legislation and has helped me fine tune the proposal. The Secretary of Defense has written to say that legislation is the only fix to this problem. As far as I know, no one disagrees with this proposal. The focus of discussion thus far has been concerned with timing. As I have stated, timing is essential. I believe that the chairman and ranking member of the committee agrees with me that we must do something quickly. Timing is why we are here today asking for the approval of the House on this noncontroversial but urgently needed legislation.

Mr. Speaker, through no fault of their own, these 50 loyal and dedicated airmen have been placed in an untenable position—a position that will financially ruin them if we do not act, and act today. I urge all my colleagues to join with me and do the right thing.

Mr. BENNETT. Mr. Speaker, I move the previous question.

The previous question was ordered.

The SPEAKER pro tempore (Mr. WHITTEN). The question is on the amendment in the nature of a substitute offered by the gentleman from Florida [Mr. BENNETT].

The amendment in the nature of a substitute was agreed to.

The bill was ordered to be engrossed and read a third time, was read the third time, and passed, and a motion to reconsider was laid on the table.

GENERAL LEAVE

Mr. BENNETT. Mr. Speaker, I ask unanimous consent that all Members may have 5 legislative days within which to revise and extend their remarks and include therein extraneous material on H.R. 4252, the bill just passed.

The SPEAKER pro tempore. Is there objection to the request of the gentleman from Florida?

There was no objection.

CLEAN AIR ACT AMENDMENTS OF 1990

The SPEAKER pro tempore. Pursuant to the order of the House of Thursday, May 17, 1990, and rule XXIII, the Chair declares the House in the Committee of the Whole House on the State of the Union for the consideration of the bill, H.R. 3030.

□ 1315

IN THE COMMITTEE OF THE WHOLE

Accordingly, the House resolved itself into the Committee of the Whole House on the State of the Union for the consideration of the bill (H.R. 3030) to amend the Clean Air Act to provide for the attainment and maintenance of the national ambient air quality standards, the control of toxic air pollutants, the prevention of acid deposition, and other improvements in the quality of the Nation's air, with Mr. HOYER in the Chair.

The Clerk read the title of the bill.

The CHAIRMAN. Pursuant to the rule, the bill is considered as having been read the first time.

Pursuant to the order of the House of Thursday, May 17, 1990, the gentleman from Michigan [Mr. DINGELL] will be recognized for 3 hours; the gentleman from New York [Mr. LENT] will be recognized for 3 hours; the gentleman from California [Mr. ANDERSON] will be recognized for 30 minutes; the gentleman from Pennsylvania [Mr. SHUSTER] will be recognized for 30 minutes; the gentleman from Illinois [Mr. ROSTENKOWSKI] will be recog-

nized for 30 minutes; and the gentleman from Minnesota [Mr. FRENZEL] will be recognized for 30 minutes.

The Chair recognizes the gentleman from Michigan [Mr. DINGELL].

Mr. DINGELL. Mr. Chairman, I ask unanimous consent that the last 30 minutes of debate be preserved, 15 minutes for the gentleman from New York [Mr. LENT] and 15 minutes for the majority to conclude the debate.

The CHAIRMAN. Is there objection to the request of the gentleman from Michigan?

There was no objection.

Mr. DINGELL. Mr. Chairman, I yield myself such time as I may consume.

Mr. Chairman, it has been 13 years since this body revised our air quality laws.

Clean air has always been one of the most difficult, divisive, complex, costly and important issues the Congress has had to confront. It has in the past pitted region against region, and industry against industry. Sometimes those conflicts have become very personal, fraying nerves and shortening tempers.

But since H.R. 3030 was introduced last year, we have managed to set-aside ancient animosities, and avoided creating new ones. The members of the Committee on Energy and Commerce have on many times worked well into the early hours of the morning. It has been worth it, because we have written a good bill.

It is the product of months of intense discussions and negotiations, always conducted in a spirit of comity and conciliation. For that, I thank the members of the committee—particularly Mr. LENT, Mr. WAXMAN, Mr. MADIGAN, Mr. SHARP, Mr. SWIFT, and Mr. ECKART, to name but a few who played important roles in crafting this legislation.

The bill we offer is tough—but fair. Those in the environmental community say it is cleaner than the bill produced by the Senate, while those in industry say it is cheaper.

The legislation in places goes a bit farther than I think necessary—but that was the will of the committee and the Congress, and I accept and trust their judgment.

The bill we are offering for your approval is the most comprehensive clean air bill—and the most comprehensive environmental bill—ever written. The 1977 Clean Air Act focused almost entirely on two issues: urban smog and motor vehicle emissions. They are but the first two of seven titles in the legislation we will consider. The Clean Air Act of 1970 contained provisions dealing with hazardous emissions; in practice, only seven substances have been regulated. Title III of this year's bill completely rewrites those provisions. The rest of the committee bill represents entirely new initiatives and approaches.

In the Energy and Commerce Committee, the most important environmental issues of the day—urban smog, motor vehicle emissions, cleaner burning fuels, toxic emissions, and acid rain—have been resolved in a series of bipartisan, almost unanimous agreements. These are the provisions that will provide by far the greatest environmental and health benefits to the American people, and they will also impose the most substantial burdens on American industry.

The simple fact is that this bill will reduce more air pollution caused by more substances from more sources.

The bill sets standards for the major pollutants such as ozone, carbon monoxide, sulfur oxides, particulates, nitrogen dioxide, and lead which contribute to urban smog. It sets procedures the States must follow to bring areas into compliance with air quality standards. All but 9 cities must comply with the standards by 1999; all cities with the exception of Los Angeles must comply by 2005; and Los Angeles—which has the Nation's most severe air quality problems—must comply by 2010. The EPA would have the power to enforce plans for reducing pollution in areas where the States were unwilling or unable to act.

With respect to motor vehicles, the bill sets new standards for motor vehicle tailpipe emissions. We have already reduced tailpipe emissions by between 75 and 96 percent; this legislation will require the automakers to reduce nitrogen oxide emissions by another 60 percent, and hydrocarbons by another 40 percent in the next 6 years—with the possibility of even of more stringent reductions in 2003.

On toxic emissions, all major sources, and 90 percent of the area sources, of 191 identified toxic pollutants will be required to use the maximum available control technology to reduce emissions within 10 years. And to control acid rain, by the year 2000, sulfur dioxide emissions will be reduced by 10 million tons annually.

These provisions were all adopted in committee. In the time since we reported the bill, we have also reached agreement on some other issues. We have agreed on requirements for clearner-burning fuels, we have agreed on emission permits and provisions for enforcement, and we have agreed on a program to improve visibility in our national parks.

What remains to be done are just a small number of issues. They may be important to individual Members and their communities, and for that reason, deserve serious consideration. But in terms of writing a strong, workable piece of national environmental legislation, the overwhelming majority of the work has been done.

The members of the committee—and the members of this body—have every reason to be proud of what we have accomplished. H.R. 3030—the Clean Air Act of 1990—deserves the support of my colleagues and is an important stride forward in resolving a major environmental concern and controversies which have been making it harder for us to address other important questions which will follow on after this legislation is enacted.

□ 1320

Mr. Chairman, I reserve the balance of my time.

The CHAIRMAN. The gentleman from Michigan [Mr. DINGELL] has consumed 10 minutes.

Mr. LENT. Mr. Chairman, I yield myself such time as I shall consume.

Mr. Chairman, for the past 12 years, the House has been locked in a stalemate over the best way in which to improve the Clean Air Act. During this period of legislative inaction, our air has become dirtier, resulting in a rapid deterioration of our natural resources and a tremendous cost to the health of Americans.

Two significant changes occurred this year that broke a decade's logjam. The first came from the White House. In his 1988 campaign, George Bush said that—if elected—he would offer a comprehensive plan to clean the air we breathe. A few months after taking office, President Bush fulfilled his pledge by proposing a tough, comprehensive clean air package that tackles the problems of acid rain, air toxics and smog. The bill that is before us today, H.R. 3030, satisfies President Bush's promise to the American people. Under his strong leadership, we accomplished something that had not been done in years: we reported a clean air bill to the House floor.

The second change that occurred this year was the willingness of Congressional leaders to compromise. Members whose absolute commitment to a particular point of view had prevented a bill from leaving committee in the past now found themselves sitting across the negotiating table, seeking and arriving at common ground.

H.R. 3030 is a result of compromises. Using the Bush language as a starting point, the interests of the environment and the economy were weighed in arriving at complex solutions to our air quality problems. The bill's 10 million ton sulfur dioxide reduction makes it the strongest acid rain provision ever considered by Congress, yet it does so in a way that helps those areas of the country, like the Midwest, which will be asked to bear the greatest share of the clean-up cost. Likewise, we arrived at compromises on the thorny issues of tailpipe emissions, smog, reformulated gasoline and air toxics, so that—unlike prior years—we

find ourselves in a position of relative agreement on the most important issues framing the clean air debate.

I would like to take this opportunity, Mr. Chairman, to thank my cosponsor and distinguished colleague from Michigan, the Chairman of the Energy and Commerce Committee, Mr. DINGELL, along with the gentleman from California, the chairman of the Subcommittee on Health and the Environment, Mr. WAXMAN, for their leadership in bringing this bill forward. Their willingness to tackle the tough issues and to work towards a comprehensive compromise have allowed us to bring this bill to a vote. I would also like to thank the ranking Republican members on the Health and the Environment and Energy and Power Subcommittees, Mr. MADIGAN and Mr. MOORHEAD, along with my distinguished colleagues on the Health and Environment Subcommittee: Mr. DANNEMEYER, Mr. WHITTAKER, Mr. TAUKE, Mr. BLILEY, Mr. FIELDS, Mr. NIELSON, and Mr. BILIRAKIS, for playing key roles in the exhaustive negotiations that brought about numerous compromises.

Title V, which dealt with acid rain, one of the most difficult issues we dealt with, included a fair and equitable distribution of allowances so that all areas of the country would have sufficient allowances to grow. Pivotal in those negotiations were Mr. SHARP and Mr. COOPER, who also deserve our thanks for their active participation.

When we reach final consideration, H.R. 3030 must still meet President Bush's tests of reasonableness and balance that he outlined to the Senate when that body considered amendments to the Clean Air Act. In a letter to Minority Leader ROBERT DOLE, the President stated, and I quote, "I will only sign legislation that balances environmental and economic progress," and he outlined five tests as follows:

First, the important environmental protections afforded by the administration's bill must be maintained in the final legislation and preserved over time.

Second, the bill should not impose aggregate costs on the economy that exceed the already-considerable costs embodied in the administration's bill—with an adjustment of no more than 10 percent to reflect certain mobile source provisions added in the House Energy and Commerce Subcommittee on Health and the Environment.

Third, controls in the bill should be designed to achieve reductions in the most cost-efficient way—that is, for the least cost per ton of reduced pollutant.

Fourth, the system of emissions trading, which allows acid rain reductions to be achieved in the least costly and most equitable fashion, must be allowed to work.

Fifth, the legislation must not include a national electricity tax to pay for controls, which would penalize consumers in those States which have already undertaken reductions by making them in effect "pay twice" for clean air.

Mr. Chairman, I believe that H.R. 3030—even after significant strengthening amendments made in subcommittee and committee—meets President Bush's five tests of balance and reasonableness. It is a delicate mosaic, whereby hundreds and thousands of complex, intricate tiles form one completed picture.

Several amendments on a number of outstanding issues threaten the delicate balance of this mosaic. If passed, these amendments could destroy the months of careful compromise that have brought us so far and result in the same type of legislative logjam with which we are so familiar. These outstanding areas include:

First, chlorofluorocarbons, second, production mandates for automobiles, third, assistance to those Americans in the labor force who are displaced due to the provisions of this Act, and fourth, air emissions from offshore oil platforms.

As we discuss and debate each of these amendments, we must remember how far we have come, and ask ourselves whether the adoption of a particular amendment will result in the collapse of our compromise efforts, a lack of consensus in the Congress and, finally, the likelihood of a Presidential veto if the five tests of balance and reasonableness do not continue to be met.

H.R. 3030 is a good bill. It is a landmark compromise that takes dramatic strides forward toward preserving and protecting our environment. Let us not allow our fervor for clean air to force us to lose sight of the forest for the trees. By passing H.R. 3030, President Bush's Clean Air Act Amendments of 1990, we can indeed leave our children and our grandchildren a world made better by our efforts, an America where clean air is not merely a distant memory, but a fact of life.

Before I conclude, Mr. Chairman, I would like to express on behalf of all my colleagues on the committee our heartfelt thanks and appreciation to our staff that served us so admirably throughout this debate. In particular, I would be remiss if I did not mention Chuck Knauss, David Finnegan, John Shelk, Michael Woo, Jessica Laverty, Phil Schiliro, Margaret Durbin, John Orlando, Jack Clough, John Hambel, Phil Barnett, Greg Whetstone, Judy Greenwald, and Shelley Fidler. These dedicated men and women worked virtually around-the-clock, drafting language that would be acceptable to all sides. This bill could not have been possible were it not for their dedication and commitment, and we are indeed fortunate to have professionals of this caliber serving us in Congress.

Mr. Chairman, I reserve the balance of my time.

□ 1330

The CHAIRMAN. The gentleman from New York [Mr. LENT] has consumed 9 minutes.

Mr. DINGELL. Mr. Chairman, I yield 16 minutes to the distinguished gentleman from California [Mr. WAXMAN], the chairman of the subcommittee, who has helped to craft this legislation and arrive at the compromise and who played a most important part in the entirety of its consideration.

Mr. WAXMAN. Mr. Chairman and my colleagues, this is a historical moment for us to meet and consider amendments to the Clean Air Act.

This is also the most important environmental issue that we will have before us in this Congress.

When I think back over the 10 years in which we have been toiling to get a bill to this point, I think how attitudes have changed.

In the early 1980's there were those who said that we need not be concerned about the stringency of the nonattainment program, the part of the Clean Air Act which sets in place the plans to reduce air pollution so that areas can be in compliance with the law and the air in those areas healthy enough to breathe. There were many who said we did not need such strict laws on the books because we were moving toward compliance by the late 1980's. And some people suggested in the early 1980's that we could double the amount of emission from automobiles without any difficulty, we could double the amount of emissions in our national parks without doing any great harm.

Well, they have been proved wrong. Here we are in 1990 and we have over 150 million Americans living in areas where the air pollution is so excessive that the Environmental Protection Agency has termed it unhealthy to breathe.

We need a strong Clean Air Act that will reduce air pollution in our cities and throughout our Nation. And the essential reason for the Clean Air Act is to accomplish that goal so that we can protect the public health. The bill we have before us accomplishes that result. It sets in place a strong program that will have the force behind it to reduce air pollution by requiring local communities to make an inventory of the sources of that pollution and to develop a plan that will reach, within a reasonable period of time, a deadline where the air will be clean.

As we strive to clean up the air, we have to be mindful of the fact that the leading cause of air pollution in our country is the motor vehicle.

We must reduce pollution from cars, trucks, buses.

Our bill that is presented to you today has strong standards for gasoline-powered cars. But we need more than that. We need to take the part of the proposal that the President sent us which he claimed was the most innovative and far-reaching—and he was right—that part which said we have to develop the technology for clean-burning cars and move in that direction.

Clean-burning cars that will run on alternative fuels, was key to the President's approach. It was the most innovative part of his proposal. We should restore that provision to the bill. The Waxman-Lewis amendment to this legislation will accomplish this. The House will have that issue before it when we consider amendments.

As I look back over the last 10 years, I think about the debate about acid rain. There were those who said there was not enough scientific certainty to deal with the acid rain problem. But people in the northeastern part of the country, who saw their lakes and forests being destroyed, did not doubt that acid rain was a real problem.

□ 1340

The National Academy of Sciences did not doubt it. In two separate studies on acid rain they concluded that sulfur dioxide and nitrogen oxide emissions were causing acid rain. Pollution carried over long distances turned into precipitation and that precipitation was destroying the environment.

Not only that, the pollution was adversely affecting public health.

In the early 1980's, our colleagues, the gentleman from Minnesota [Mr. SIKORSKI], and the gentleman from Massachusetts [Mr. CONTE], and the gentleman from New York [Mr. BOEHLERT], and the gentleman from New York [Mr. GREEN], argued that we needed to do something about acid rain. Years have gone by, and now this legislation before the Members will, in fact, have a program to reduce the pollutants that cause acid rain. In this regard, I want to pay tribute to President Bush for recognizing that acid rain is a problem, for seeing that 10 million ton reductions by the turn of the century were needed, and a cap on pollution thereafter was something we had to have in order to prevent pollution from going back on the upswing and doing all the damage that would otherwise occur.

At the beginning of the decade, many Members talked about toxic air pollutants. Those pollutants were different than smog. Smog causes problems of the lungs and heart. It causes problems for the elderly and children, but toxic air pollutants cause cancer, birth defects, and neurological damage, especially to those who live near these industrial facilities. We argued that more needed to be done. The Environmental Protection Agency, under several past administrations, had done virtually nothing. But when we argued that the only degree of regulation on toxic air pollutions that existed was whatever the industry placed on itself, people could not believe that was the case.

After the Bhopal tragedy in India, our committee held hearings, and our committee did more than that. We asked for an inventory to be developed about the extent of the toxic air pollutants in this country. We requested the industry to tell Members how many of these pollutants were going into the air from their facilities. From the reports back to members of the industry—and not all of them responded—we were told that 80 million pounds of toxic air pollutants were going into the air each year. When we announced that, there was a scream from industry, "That could not be, That was clearly an exaggeration." But when we adopted the Superfund legislation, the gentleman from Minnesota [Mr. SIKORSKI], succeeded by 1 vote in the House in getting a requirement that EPA do an inventory of toxic air pollutants. They released their inventory, a much more official report than ours. The EPA announced after their first survey that there were 2.7 billion pounds of toxic air pollutants going into the air from industrial facilities.

Clearly, this problem is one that is long overdue to be addressed by the Congress of the United States. I am pleased to say that this bill has a very strong toxic air pollutant section.

There are still some issues that we need to address when this bill comes before the full House in a couple of days. We are learning, and the science is moving very rapidly in illustrating, that there is a depletion of the upper ozone layer that shields our planet, due to the release of chlorofluorocarbons, a pollutant that chemically destroys this ozone. CFC's have created what is termed "a hole" in the ozone layer. There is no scientific dispute about this question. The experts tell Members there is this depletion of the ozone layer. It is causing more skin cancers. That is a fact upon which there is a consensus. Many experts tell Americans that more harm is being done than we really know at this time, that there are subtle changes to the whole ecosystem, and those subtle changes can have cataclysmic effects. The Bates-Boehlert amendment will deal with the problem of chlorofluorocarbons that are causing damage to the upper ozone. At the appropriate time, we will urge the House to adopt that amendment.

We have other issues, and negotiations are going on as of this moment to try to resolve many of these issues, as appropriately as they should. I want to acknowledge the fact that through negotiations in our committee, many of the issues that have been contentious for at least 10 years will not be the battleground before the House. The issues of the nonattainment program, acid rain, toxic air pollutions, are by and large resolved as they move to the House of Representatives, thanks in part to the leadership and ability and willingness to cooperate on the part of a number of our colleagues.

I want to pay tribute to our chairman, the gentleman from Michigan [Mr. DINGELL], who has shown the willingness to lead and to get Members together on so many of these important issues. I want to pay tribute to the gentleman from New York [Mr. LENT], the ranking Republican member of our full committee, the Committee on Energy and Commerce, also the gentleman from Minnesota [Mr. SIKORSKI], the gentleman from New Mexico [Mr. RICHARDSON], the gentleman from Oklahoma [Mr. SYNAR], the gentleman from Pennsylvania [Mr. WALGREEN], the gentleman from Massachusetts [Mr. MARKEY], the gentleman from New York [Mr. LENT], the ranking Republican [Mr. ECKART], the gentleman from California [Mr. BATES], the gentleman from Tennessee [Mr. COOPER], the gentleman from Texas [Mr. BRYANT], the gentleman from Washington [Mr. SWIFT], the gentleman from Indiana [Mr. SHARP], the gentleman from Illnois [Mr. MADIGAN], the gentleman from Iowa [Mr. TAUKE], and the gentleman from New Jersey [Mr. RINALDO]. These are all people who have played an active role in resolving some of these heretofore contentious issues.

I want to acknowledge some of our former colleagues who have been on the Committee on Energy and Commerce, and who have battled on this question over the years, and have continued to stay active, Senators WIRTH and MIKULSKI, and now Governor Jim Florio. They have all gone on from the House to other positions, but they have left their imprint on this legislation. A number of Members who are not on the Committee on Energy and Commerce have played and will continue to play a critical role in bringing this bill to the floor, and I am particularly grateful to the commitment of the gentleman from Massachusetts [Mr. CONTE], the gentleman from New York [Mr. BOEHLERT], the gentleman from New York [Mr. GREEN], the gentleman from California [Mr. LEWIS], the gentleman from Minnesota [Mr. VENTO], and many others, for a strong, fair, clean air bill.

I will not go into some of the detailed provisions in the bill, unless there are questions, the bill deals with many difficult issues, especially that very difficult one of acid rain which

divided our colleagues and our Nation. The efforts of people on our committee, such as the gentleman from Minnesota [Mr. SIKORSKI], the gentleman from Tennessee [Mr. COOPER], the gentleman from Indiana [Mr. SHARP], the gentleman from Illinois [Mr. MADIGAN], and the gentleman from Illinois [Mr. BRUCE] were particularly helpful during the committee's deliberations on acid rain. I am also pleased that we reached an agreement this weekend on an amendment by my good friend, the gentleman from Oregon [Mr. WYDEN], that will be offered on the floor to require the EPA to regulate regional haze and protect visibility in the national parks. The committee has reached agreement on some of these contentious issues, and there may be other agreements as well. But unless an agreement is reached we will have the amendment that I will be offering with my colleague, the gentleman from California [Mr. LEWIS], on alternative fuels, very similar to the alternative fuel plan that President Bush included in H.R. 3030. Unfortunately, the Committee on Energy and Commerce, by the narrowest of margins, significantly weakened the President's program. The gentleman from California [Mr. BATES], and the gentleman from New York [Mr. BOEHLERT] will have their amendment to control chemicals destroying the Earth's ozone layer. The gentleman from Minnesota, and the gentleman from New York will offer an amendment to extend car manufacturers' warranties for catalytic convertors and electronics, to 8 years or 80,000 miles. The bill out of committee, incredibly, lowered—lowered the warranty period, shifting the burden from the automobile manufacturers on to the consumer, to make the consumer pay the bill, so that antipollutant devices will work. What a ripoff of the consumer that is. Also, great harm will come to the environment as well if these catalytic convertors do not work as they should. The gentleman from California [Mr. LEVINE] and the gentleman from California [Mr. LAGOSMARSINO] will be offering an amendment to require the EPA to regulate oil and gas facilities on the Outer Continental Shelf, in the same manner it regulates nearby onshore facilities. Currently these activities escape EPA regulation.

Mr. Speaker, there are many people who have played an important role in this legislation. I have a deep sense of gratitude and satisfaction that the bill that is before Members is one that will go a long, long way to dealing with these air pollution problems, that many in the early part of this last decade refused to acknowledge as problems at all. I cannot tell Members how many times the gentleman from Minnesota [Mr. SIKORSKI] offered the different approaches to achieve acid-rain reductions, only to be told "Acid rain—there is no such problem as acid rain." Now we are not disputing the problem of acid rain. Now we are legislating to regulate the pollutants that cause acid rain. We have certainly made a great advance that now brings Members to this floor with this bill.

□ 1350

Mr. Chairman, our staffs have been magnificent. The gentleman from New York [Mr. LENT] went through the names of all the staff members, and they all deserve our gratitude. All have been professionals in the highest sense of that term, working incredibly long hours to try to work out differences and craft the bill to accomplish what the Members hope to accomplish.

I want to pay tribute to my staff members, Greg Wetstone and Phil Barnett, who are both counsel to the subcommittee, and my own administrative assistant, Phil Schiliro. They prepared something new to help our deliberations on clean air, and what they prepared is what we call the Clean Air Facts, solid statements of the issues involved. These Clean Air Facts are quite voluminous because we have had Clean Air Facts on every one of the issues involved. It was important to us that the Members get the facts about this clean air debate and not just hear from the lobbyists who have a vested interest in representing their organizations, and so often their representations are in fact misrepresentations of either the problem or the solutions.

The Clean Air Facts set out an enunciation of the issues before us, and I would like to have them appended to my remarks in the CONGRESSIONAL RECORD so they will be available to others who wish to read them.

Mr. Chairman, I thank the chairman of my committee for this opportunity to speak on this issue, and I thank my chairman for his leadership. I look forward to the completion of this legislation in the House and the conference with the Senate. I look forward to the time when we will be there with President Bush when I hope he will sign into law what he and we have promised the American people: Legislation that will bring us clean air, legislation that will reduce air pollution. That is the only way we are going to get clean air and a better environment.

Mr. Chairman, the Clean Air Facts to which I alluded are attached to my remarks, as follows:

[From the Clean Air Facts, Mar. 6, 1989]

THE CLEAN AIR ACT: AN INTRODUCTION

The Clean Air Act, as originally enacted in 1970, and amended in 1977, includes a number of programs intended to clean up unhealthful levels of pollution, and preserve air quality in areas with pristine air. This fact sheet offers a brief introduction to the structure of the Act, emphasizing parts most relevant to the current debate.

AMBIENT AIR QUALITY STANDARDS AND THE SMOG PROBLEM

All areas of the country are required by the Clean Air Act to meet air quality standards established by EPA at a level considered adequate to protect public health. These standards, called the National Ambient Air Quality Standards (NAAQSs), are the cornerstone of the Act's pollution control programs. Each ambient standard is based on a detailed review of scientific information, called a criteria document, prepared by EPA and expert advisors.

Achievement of the health standards is a driving force behind many of the pollution control requirements of the Act. States are given primary responsibility for attaining the standards. Each is required to prepare a State Implementation Plan (SIP) that specifies enforceable pollution control requirements sufficient to attain the standard. Although several of these standards have been achieved throughout the nation, the health standards for ozone and carbon monoxide are currently exceeded in most urban areas.

Areas not meeting the Act's standards are termed "nonattainment" areas, and are subjected to certain tougher control requirements for new sources. In addition, existing sources in nonattainment areas—those sources too old to be covered by the Act's new source standards—are required to use all Reasonably Available Control Technology (RACT). EPA issues guidelines for specific industry categories, called Control Technique Guidance (CTG), to define what technologies should be considered reasonably available.

Extensions of the Act's original deadlines gave areas until August 31, 1988, to meet the standards. When this deadline passed, and unhealthful levels of ozone and carbon monoxide pollution persisted, the vast majority of urban areas became subject to EPA sanctions. These sanctions include a ban on the construction of large new pollution sources, and at EPA's discretion, a cut-off of Federal highway funds. To date, however, the Agency has only sought to impose such sanctions on a handful of cities.

Carbon monoxide pollution comes mostly from cars, trucks, and buses. Ozone pollution is formed in the atmosphere from hydrocarbon and nitrogen oxide pollutants released by these sources, as well as from industrial facilities, chemical plants and numerous smaller sources.

NEW SOURCES

New pollution sources in all states are subjected to nationally uniform pollution control requirements that reflect use of the best technology available, taking cost into account. This is known as the New Source Performance Standard (NSPS) program. More stringent requirements are imposed on new sources because engineering considerations allow for cheaper and more effective pollution control when the effort is incorporated in the design and construction of the facility. The nationally uniform standards also serve to eliminate the possibility that states might compete for new industry through the relaxation of pollution requirements.

Those new pollution sources located in nonattainment areas are subjected to especially demanding requirements. They must use technology capable of reducing pollution to the Lowest Achievable Emissions Rate (LAER), and are required to offset new pollution that they will introduce to the area with comparable or greater pollution reductions from nearby sources.

ACID RAIN

The Clean Air Act was originally designed primarily to address air quality problems caused by high pollution levels relatively near the pollution source. It was expected that as long as pollution levels did not exceed the ambient standards, air quality objectives would be served. Although the approach was of questionable legality at the time, in the 1970s many states resorted to very tall smokestacks to disperse pollution. This approach allowed the ambient standard to be achieved without the use of expensive control technology. Little thought was given to the possibility that the pollution might cause environmental damage when it returned to earth.

Scientists have since learned that sulfur dioxide and nitrogen dioxide pollution from power plants, autos, and other sources can be carried hundreds or even thousands of miles through the atmosphere, chemically transformed in the process, and eventually returned to earth as sulfuric or nitric acids. These acids often come to earth in rain or snow, but sometimes they return as "dry deposition." Such acid pollution has been associated with a variety of harmful effects, including the acidification of lakes; the decline of forests; damage to man-made materials; and serious human health impacts.

AIR TOXICS

Section 112 of the Clean Air Act provides authority for control of especially dangerous chemicals, called "hazardous air pollutants." This is to be accomplished through National Emission Standards for Hazardous Air Pollutants (NESHAPs) to be set by EPA. Section 112 was intended to achieve stringent, uniform and relatively quick Federal regulation of substances that pose risks of serious illness at relatively low concentrations. EPA is directed to list and within one year regulate air pollutants that are hazardous to human health. Substances that might cause cancer, reproductive disorders, neurological effects, or other serious ailments were expected to be regulated under this section.

Unfortunately, Section 112 has not been effectively implemented. Although experts agree that hundreds of compounds released into the air meet the Act's definition of "hazardous," the Federal EPA has regulated only seven substances under Section 112 in the nearly 20 years since the law was enacted. The release of numerous substances formally classified as carcinogens by the EPA itself, including chloroform, formaldehyde, carbon tetrachloride, and PCBs, remains unregulated.

MOTOR VEHICLE EMISSION CONTROLS

Recognizing the importance of automobiles as a pollution source, Congress in 1970 legislatively established standards for auto-related pollutants. The legislation sought to reduce automotive hydrocarbon pollution (HC), nitrogen oxide pollution (NO_x), and carbon monoxide pollution (CO) by 90 percent of the uncontrolled levels.

In order to meet these targets, EPA set vehicle emission standards of 0.41 grams per mile for HC, 3.4 grams per mile for CO, and 0.4 grams per mile for NO_x. The hydrocarbon and CO standards were to be attained by 1975, and the NO_x standards by 1978. This timetable was pushed back in the 1977 amendments, and passenger cars were given until 1981, with an extension available until 1983 for the CO standard. At the same time, the NO_x standard was relaxed to 1.0 grams per mile. These 1970 standards, as altered by the weakening of the NO_x requirement, remain in force today. They are required to be achieved both at "certification," when a new engine family is tested by EPA (before assembly line production), and "in use," when the vehicle is actually on the street. The in use requirement mandates that the standard be achieved throughout the first 50,000 miles of vehicle use.

The emission standards have worked to bring down motor vehicle pollutants on a per vehicle basis. Much of the gain, however, has been offset by increases in the number of cars on the road and in miles travelled. Motor vehicles remain the single largest source of ozone and carbon monoxide pollution in nonattainment areas.

[From the Clean Air Facts, Mar. 15, 1989]

OZONE POLLUTION: A PRIMER

Ozone pollution is our country's most pervasive air pollution problem, and a serious public health concern. The vast majority of our cities, as well as many rural areas, currently violate U.S. Environmental Protection Agency (EPA) health standards for ozone. This fact sheet describes how ozone pollution is formed, where it comes from, and its health and environmental impacts. (Ozone control strategies will be discussed in a separate fact sheet.)

WHAT OZONE IS

Ozone is a highly reactive gas that is one of the primary constituents of smog. Chemically, ozone is a form of oxygen composed of three atoms, as compared to oxygen gas which has two atoms. The three atom arrangement is by nature unstable. In a process known as "oxidation" the extra oxygen atom in the ozone molecule has an aggressive tendency to react with whatever substance is available.

The oxidation reaction is extremely corrosive. This is the reaction that causes metals to rust. It also causes cracking and fading of paints, dyes and rubber products. This corrosive character is largely responsible for ozone's adverse health and environmental effects.

HEALTH IMPACTS OF OZONE POLLUTION

Ninety percent of the ozone breathed into the lung is never exhaled. Instead, the ozone molecules react with sensitive lung tissues, irritating and inflaming the lungs. This causes a host of adverse health consequences, including chest pains, shortness of breath, coughing, nausea, throat irritation, and increased susceptibility to respiratory infections.

These adverse effects have been observed in healthy, exercising individuals at concentrations below the level of the Federal health standard. The intensity of the acute response increases as ozone levels rise, and as respiration rates increase. Vigorous exercise, which leads to heavier breathing, is likely to increase the health impacts of exposure to ozone. Unfortunately, the warm sunny conditions most conducive to ozone formation are also most attractive for outdoor activity.

A growing body of scientific evidence indicates that over the long term, repeated exposure to ozone pollution may scar lung tissues permanently. Researchers explain that the build-up of scar tissue stiffens the lungs, reducing their capacity and, in effect, prematurely aging the respiratory system. Ultimately, emphysema or lung cancer may result.

Young children are especially vulnerable to both the acute and the permanent effects of ozone pollution. This is so because their small airways are more easily obstructed by the inflammation ozone causes. Also, a child's more rapid breathing tends to draw ozone deep into the lungs; and children's lungs are often already compromised by their high rate of respiratory infections. Other especially vulnerable populations include victims of respiratory diseases, such as asthma or emphysema. Studies of asthmatics living in polluted areas have found that asthma attacks tend to occur more frequently as ozone levels rise.

Health researchers are also concerned that ozone pollution increases the lung's susceptibility to acute and permanent injury from exposure to the sulfuric and nitric acids commonly found in urban smog. Such interactions among air pollutants are poorly understood, and are now under study.

IMPACTS ON CROPS AND VEGETATION

Ozone pollution has been shown to damage many types of vegetation extensively. The pollution enters plant leaves through their gas exchange pores, in essence burning the cell membranes. EPA estimates indicate that ozone pollution levels common in many areas can reduce tomato yields by 33%, beans by 26%, and soybeans by 20%. Other studies have shown that ozone levels below the federal standard can cause wheat yields to drop by 30%. The Agency has concluded that ozone causes annual crop losses of $2 to $3 billion per year.

Forests can be damaged through the same processes. Forest damages attributable to ozone pollution, including premature death and stunted growth, have been found in the San Bernadino National Forest in Southern California, and along the length of the Sierra Nevada mountains. Ozone pollution is also a suspected cause of the widespread forest dieback occurring in high altitude forests throughout the East.

HOW OZONE IS FORMED

Ozone is not emitted directly from smokestacks or other pollution sources. Instead, it is a "secondary pollutant," or formed from the mixture of nitrogen oxides (NOx), and a large group of hydrocarbon pollutants called volatile organic compounds (VOCs). As explained below, these compounds are released into the air by motor vehicles, factories, and numerous smaller sources. The pollutant mix cooks in the sun, producing ozone through a complex chain of reactions. The hotter the temperatures, the greater the formation of ozone.

A typical ozone pollution episode involves a large stagnant air mass that allows pollutants to build up in the atmosphere. The polluted air mass slowly spreads downwind. In the summer, it is common for such air masses to build-up over the urban areas along the East Coast, and move into New England. As the air mass moves, ozone levels often continue to increase. In part, this is because the pollutants have more time to react and form ozone. The addition of new pollutants, originating in areas passed along the way, is also an important factor.

This process can eventually bring high ozone levels to areas hundreds of miles downwind of the urban pollution sources. As a result, ozone pollution can be a serious problem even in very rural parts of the country. For example, last summer one of the most pristine areas east of the Mississippi River—Acadia National Park on an island off the northern coast of Maine—recorded ozone levels so high that they would

produce a smog alert if they occurred in downtown Los Angeles.

SOURCES OF OZONE PRECURSORS

The two major ozone precursors, VOCs and NO_x, come principally from motor vehicles and industry. The Office of Technology Assessment estimated last year that the most important sources of VOC emissions are "mobile sources," mainly cars, trucks, and buses, which release about 40% of national VOC emissions. Other important sources include: organic solvent evaporation from stationary sources such as dry cleaners, printers, and paint shops (30%); and home fuel combustion (12%). (Home fuel combustion, however, tends to take place in cold weather, and not during ozone season.)

In most urban areas, transportation sources actually account for a much larger percentage of the VOC emissions, often over 50%, because of the high concentration of motor vehicles in city centers, and the relative absence of heavy industry in such areas.

In addition, EPA recently discovered that cars, trucks and buses are responsible for substantially more of the warm weather VOC pollution than even recent estimates indicate. The Agency last year determined that the pollution coming from automotive tailpipes may in fact be only a small percentage of the car's VOC emissions. On hot days, when ozone is most likely to be a problem, high levels of pollution escape by evaporation through the engine and fuel tank in a phenomenon termed "running loss." Preliminary estimates are that running losses alone could account for as much as 30% of that nationwide VOC pollution total.

The other major ozone precursor is nitrogen oxides, which is also a major contributor to acid rain. Nitrogen oxides are produced in all fossil fuel combustion reactions. The principal sources of NO_x emissions are, once again, mobile sources, which account for about 45% of the NO_x inventory. Other important sources include electric utilities burning fossil fuels (30%), and industrial fuel consumption (12%).

AREAS AFFECTED BY OZONE POLLUTION

Ninety-four of the nation's urban areas, with a collective population of 136 million people, violate the Clean Air Act health standard for ozone. The highest ozone levels are found in Southern California, with New York, Houston, and Chicago rounding out the list of major cities with the most severe ozone problems. Many other areas, however, experienced ozone levels last summer that exceeded the standard by more than 50%. Along the Eastern seaboard, ozone violations were especially frequent last summer, occurring about once every three days.

EPA's list of areas violating the ozone standard as of 1987 is provided in Table 1. Table 2 shows the 28 new areas that became nonattainment because of their 1988 ozone levels. In these tables, compliance is evaluated on the basis of "design value," which is the fourth highest one-hour ozone reading over three years. The multi-year design value is utilized in order to avoid basing compliance determinations on the ozone levels recorded in a single, perhaps aberrational, year.

OZONE POLLUTION TRENDS

Some success in reducing hydrocarbon emissions occurred between 1970 and 1982, when VOC levels dropped by over 25%. Since then, however, VOC levels have remained relatively flat, in part because many of the gains attributable to tighter tailpipe standards have been reversed by a substantial increase in vehicle miles travelled since 1970. NO_x emission levels increased slightly between 1970 and 1986, and are expected to continue to rise.

Overall, the ozone levels recorded in 1988 were the worst of the decade, and in many areas the worst ever recorded. In fact, EPA has preliminarily added 28 new cities, with a combined populace of 15 million Americans, to the list of areas violating the health standard, as a result of last summer's high pollution levels. Air pollution experts agree that, given estimates of substantial increases in the use of motor vehicles in future years, and predictions of global warming, ozone levels in future years are likely to increase in the absence of new pollution controls.

TROPOSPHERIC VERSUS STRATOSPHERIC OZONE

The formation of ozone pollution discussed in this fact sheet occurs in the lowest level of the earth's atmosphere, called the "troposphere."

But ozone is also formed naturally in the earth's upper atmosphere, called the "stratosphere," where it serves a vital purpose in protecting the planet from dangerous ultraviolet radiation. Stratospheric ozone depletion is caused by the release of chlorofluorocarbons (CFCs) and is a major health and environmental concern. This issue will be discussed in detail in a later Fact Sheet.

Because of the reactive nature of ozone and the structure of the atmosphere, tropospheric ozone pollution cannot migrate to the stratosphere to replenish the depleted ozone levels there.

AREAS VIOLATING OZONE STANDARDS 1985–87

[Ozone Air Quality Summary Report, Nov. 28, 1988]

Areas proposed nonattainment, June 6, 1988	Exp.[1] Exc.	Design value[2] (ppm)	Number counties nonattainment[3] New	Current	Total	Population[4] 1985 (1,000)
Allentown-Bethlehem, PA–NJ	1.4	.125	0	4	4	650
Atlanta, GA	13.5	.168	7	11	18	2,472
Atlantic City, NJ	3.4	.141	0	2	2	293
Bakersfield, CA	35.1	.160	0	1	1	481
Baltimore, MD	7.9	.170	1	6	7	2,253
Baton Rouge, LA	3.0	.144	1	6	7	625
Beaumont-Port Arthur, TX	3.4	.130	1	2	3	381
Birmingham, AL	3.2	.146	4	1	5	904
Boston-Lawrence-Salem, MA–NH	2.4	.138	0	11	11	4,654
Charlotte-Gastonia-Rock Hill, NC–SC	3.0	.131	6	1	7	1,049
Chicago-Gary-Lake County, IL–IN–WI	6.4	.167	4	7	11	8,085
Cincinnati-Hamilton, OH–KY–IN	1.6	.137	1	7	8	1,680
Cleveland-Akron-Lorain, OH	1.8	.127	1	6	7	2,775
Dallas-Fort Worth, TX	11.9	.161	7	2	9	3,512
Detroit-Ann Arbor, MI	2.0	.132	0	8	8	4,581
El Paso, TX	9.0	.160	0	1	1	545
Fresno, CA	30.4	.170	0	2	2	665
Grand Rapids, MI	1.3	.125	0	2	2	635
Hancock Co, MAINE (Non-MSA)	1.4	.125	1	0	1	44
Hartford-New Britain-Middletown, CT	5.8	.167	0	8	8	2,222
Houston-Galveston-Brazoria, TX	19.1	.200	5	3	8	3,642
Huntington-Ashland, WV–KY–OH	3.8	.141	5	1	6	332
Indianapolis, IN	1.3	.125	7	1	8	1,203
Jacksonville, FL	2.1	.155	3	1	4	823
Jefferson Co, New York (Non-MSA)	4.7	.131	1	0	1	89
Kennebec Co, Maine (Non-MSA)	1.2	.119	0	1	1	112
Kewaunee Co, Wisconsin (Non-MSA)	1.9	.133	1	0	1	20
Knox Co, Maine (Non-MSA)	4.4	.154	0	1	1	35
Lexington-Fayette, KY	1.6	.126	6	0	6	329
Lincoln Co, Maine (Non-MSA)	2.4	.127	0	1	1	28
Los Angeles-Anaheim-Riverside, CA	141.5	.350	0	5	5	12,738
Louisville, KY–IN	4.0	.157	4	3	7	964
Memphis, TN–AR–MS	2.0	.130	3	1	4	945

AREAS VIOLATING OZONE STANDARDS 1985–87—Continued

[Ozone Air Quality Summary Report, Nov. 28, 1988]

Areas proposed nonattainment, June 6, 1988	Exp.[1] Exc.	Design value[2] (ppm)	Number counties nonattainment[3] New	Current	Total	Population[4] 1985 (1,000)
Miami-Fort Lauderdale, FL	2.1	.149	0	3	3	3,601
Milwaukee-Racine, WI	4.0	.165	2	4	6	1,621
Modesto, CA	16.2	.150	0	1	1	306
Montgomery, AL	2.2	.136	3	0	3	289
Muskegon, MI	6.0	.167	0	1	1	157
Nashville, TN	3.2	.142	3	5	8	910
New York–New Jersey–Long Island, NY–NY–CT	7.5	.189	2	24	26	17,931
Norfolk–Virginia Beach–Newport News, VA	2.0	.125	12	0	12	1,289
Parkersburg–Marietta, WV–OH	1.5	.126	2	0	2	158
Philadelphia-Wilmington-Trent, PA–NJ–DE–MD	13.6	.161	2	12	14	5,879
Phoenix, AZ	1.5	.149	0	1	1	1,847
Pittsburgh-Beaver Valley, PA	2.1	.135	0	7	7	2,566
Portland, ME	4.2	.152	0	2	2	336
Portland-Vancouver, OR–WA	1.8	.145	1	4	5	1,354
Portsmouth-Dover-Rochester, NH–ME	3.2	134	0	3	3	209
Providence-Pawtucket-Fall River, RI	6.5	.162	0	5	5	968
Raleigh-Durham, NC	1.4	.125	5	0	5	669
Richmond-Petersburg, VA	1.7	.130	10	3	13	801
Sacramento, CA	9.6	.170	0	4	4	1,258
Sagadahoc County, ME (Non-MSA)			0	1	1	30
Salt Lake City-Ogden, UT	3.8	.146	1	2	3	1,025
San Diego, CA	14.4	.180	0	1	1	2,133
San Francisco-Oakland-San Jose, CA	6.1	.160	0	9	9	5,595
Santa Barbara-Santa Maria-Lompoc, CA	1.7	.140	0	1	1	332
Sheboygan, WI	4.4	.142	1	1	2	186
Springfield, MA	3.4	.137	0	4	4	792
St. Louis, MO, IL	5.4	.159	2	8	10	2,412
Stockton, CA	8.1	.140	0	1	1	418
Tampa-St. Petersburg-Clearwater, FL	2.1	.131	2	2	4	1,869
Tulsa, OK	1.1	.123	4	1	5	733
Visalia-Tulare-Porterville, CA	11.0	.150	0	1	1	281
Washington, DC–MD–VA	6.2	.145	4	12	16	3,490
Worcester, MA	2.1	.131	0	1	1	656
66 areas total			125	225	350	121,866

[1] Exp. Exc. is the expected exceedance for the site for the years 1985–1987.

[2] Design value is the ozone design value in parts per million for the years 1985–1987.

[3] Current—Those counties which were listed as whole or part nonattainment on June 1, 1988 per Sec. 107 in 40 CFR 81. New—Those counties which were listed as attainment June 1, 1988 per Sec. 107 in 40 CFR 81.

[4] Population is the July 1, 1985 provisional estimates of the population.

Source: EPA, Ozone and Carbon Monoxide Summary Report: Areas Proposed Nonattainment (November 29, 1988).

TABLE 2.—*Areas violating ozone standard 1986–88 which were not violating during 1985–87*

Region, State and CMSA/MSA/county:	*Population*
1—New Hampshire: Manchester	140,000
2—New York:	
Buffalo	1,188,000
Glen Falls and Adj. Essex Co.	148,000
Poughkeepsie	255,000
3—Delaware: Sussex Co (rural).	107,000
3—Pennsylvania:	
Altoona	133,000
Erie	281,000
Johnstown	256,000
Lancaster	387,000
Harrisburg	573,000
Reading	318,000
Scranton	723,000
Sharon	124,000
3—West Virginia	
Charleston	269,000
Greenbriar Co (rural)	39,000

4—North Carolina:	
Fayetteville	258,000
Greensboro	893,000
4—South Carolina: Greenville and Adj. Cherokee Co	641,000
4—Tennessee: Knoxville	593,000
5—Indiana: Lafayette	217,000
5—Ohio:	
Canton	401,000
Columbus	1,288,000
Dayton	931,000
Toledo	608,000
Youngstown (downwind site in Farrell, PA)	513,000
6—Louisiana: Lake Charles	174,000
7—Missouri: Kansas City	1,494,000
8—Colorado: Denver	1,827,000

Source: EPA, A Preliminary Comparison of 1988 Ozone Concentrations to 1983 and 1987 Ozone Concentrations.

[From the Clean Air Facts, Mar. 21, 1989]

CARBON MONOXIDE POLLUTION

Although carbon monoxide pollution is less widespread than ozone, over 80 million Americans still live in areas that experience unsafe levels of this pollutant. This week's fact sheet explores carbon monoxide and its health effects.

WHAT IS CARBON MONOXIDE?

Carbon monoxide (CO) is a colorless, odorless gas. It is primarily a by-product of incomplete fuel combusion in cars, buses, and trucks. These transportation sources account for 70 to 90 percent of carbon monoxide emissions in most urban areas. Other sources are fuel combustion and industrial processes.

The geographic and seasonal factors that promote carbon monoxide pollution contrast sharply with those that promote ozone formation. While ozone is largely a warm-weather problem, CO levels are generally highest during cold weather. CO problems are especially exacerbated at high altitudes. Cold weather and high altitudes dramatically increase the level of carbon monoxide pollution from motor vehicle exhaust, especially during "cold starts," because they reduce combustion efficiency.

HEALTH EFFECTS

Carbon monoxide pollution reduces the ability of blood to deliver oxygen to the body's tissues. It is a "mimic" of oxygen. When inhaled, CO binds with hemoglobin that would otherwise transport oxygen through the blood stream.

Because it reduces oxygen levels in the blood stream, carbon monoxide pollution can be especially hazardous to fetuses. The fetus cannot breathe on its own, and so relies on oxygen delivered through the mothers's blood stream. The blood passing through the placenta to the fetus is naturally poorly oxygenated, because some of the oxygen in the blood has already been used by the mother. Any further reduction in oxygen levels threatens the development of the fetus. The fetal brain, which has high oxygen requirements, is particularly susceptible to carbon monoxide damage. Based on the results of animal studies, health experts believe that exposure to modest levels of carbon monoxide pollution (20 parts per million) pose risks of permanent brain damage.

The 5 million Americans suffering from heart disease are also especially vulnerable to carbon monoxide pollution, because their circulatory systems have a limited capacity to transport oxygen to the body. Angina victims experience heart pains when oxygen levels reaching the heart are lowered. According to health studies, they experience the onset of angina pain earlier when breathing carbon monoxide. Some experts believe that elevated levels of carbon monoxide pollution trigger heart attacks.

Carbon monoxide exposure also poses risks for otherwise healthy individuals. As levels of CO in the blood stream rise and oxygen levels in the brain decline, people lose visual perception, manual dexterity, and learning ability. Reduced mental alertness can lead to increased vehicular accidents. At extremely high levels (such as those that can form by running a car in an enclosed garage), CO causes death by asphyxiation.

AREAS IN NONATTAINMENT

EPA has established two ambient air quality standards for carbon monoxide: a one-hour standard of 35 parts per million and an eight-hour standard of 9 ppm.

There are 52 areas in the country that violate one or both of these standards, according to the latest figures from EPA. These areas are listed in Table 1. Their combined population is 87 million.

"HOTSPOTS"

Carbon monoxide pollution reaches its highest levels in areas where motor vehicle traffic is heaviest, such as busy intersections. Poor air circulation, such as in or near tunnels, also raises CO levels. These areas are called "hotspots." In many urban areas, however, carbon monoxide pollution causes violations of the federal health standard over broad portions of the urban areas.

Unlike ozone pollution, CO pollution generated in one urban area is not transported downwind to other areas.

CONTROLS ON CARBON MONOXIDE POLLUTION

Efforts to reduce CO pollution levels focus mainly on the motor vehicles responsible for the lion's share of emissions. The current Clean Air Act's motor vehicle standards, which were adopted in 1970, require cars to emit no more than 3.4 grams per mile of carbon monoxide. These standards apply during the federal test procedure (FTP), which evaluates carbon monoxide emissions exclusively under warm weather conditions. No standard exists to govern emissions levels at colder temperatures when emissions are typically about 60% higher.

Legislative proposals to reduce CO pollution include revising the Federal Test Procedure to include a cold weather test to resemble real-world driving conditions more closely. They also include proposals for tighter tailpipe standards for CO emissions from cars, trucks, and buses. In addition, some have suggested more effective local auto inspection and maintenance programs to assure the maximum effectiveness of pollution controls already in place on motor vehicles, as well as better transportation control programs to reduce the mileage traveled by motor vehicles. Another proposal expands the use of "oxygenated" fuels. These "blends" contain additives that allow gasoline to burn more efficiently, producing less CO. They have been used successfully in Denver to bring down high CO levels there.

[From the Clean Air Facts, Mar. 29, 1989]

SMOG CONTROL BILLS IN THE 100TH CONGRESS

During the 100th Congress, two smog control proposals (H.R. 3054 and H.R. 5469) received most of the focus in the House. This Fact Sheet describes the general philosophies of both approaches and notes their similarities and differences. It is not intended to provide a technical section-by-section analysis of either bill. It also gives a brief overview of the development of clean air bills during earlier Congresses in the 1980s.

BACKGROUND

One of the most persistent misconceptions about clean air legislation is that Congress has been deadlocked over the smog issue throughout the 1980s. While it is certainly true that acid rain and toxic air pollutant bills have been controversial and have not moved forward, bills proposing new smog control measures emerged only in the 100th Congress.

In fact, the 1981–82 clean air fight—which has been written about extensively—wasn't over nonattainment problems at all. The goal of the Reagan Administrations' proposed legislation, H.R. 5252 (the Dingell-Broyhill bill), was regulatory relief from pollution control requirements. H.R. 5252 assumed all polluted areas would meet the Act's standards not only without any new control measures, but even with significantly relaxed requirements. It would have, for example, doubled the amount of emissions from cars and allowed substantially more pollution in our national parks. This bill was opposed by Rep. Waxman and others and was never approved by the House Energy and Commerce Committee.

In 1983–84, legislation was proposed and considered on acid rain and toxic air pollutants. No smog legislation was proposed. The primary acid rain bill, H.R. 3400, was defeated in the House Health and the Environment Subcommittee by a 10–9 vote.

Acid rain and toxic air pollutant legislation were again proposed in the 99th Congress (1985–86). The acid rain bill, H.R. 4567, was approved by the Health and the Environment Subcommittee by a 16–9 margin, but was not considered by the full Energy and Commerce Committee. Again, no smog legislation was proposed.

Smog became an issue during the last Congress because the deadlines for meeting the health-based standards of the Clean Air Act were to expire on December 31, 1987. Since many cities continued to violate the Act's health-based air quality standards, Congress passed the Conte Amendment and extended the deadlines to August 31, 1988. However, comprehensive legislation was not enacted before adjournment. As a result, many areas still violate the law's requirements.

H.R. 3054 (THE WAXMAN-LEWIS BILL, INTRODUCED ON JULY 29, 1987)

By 1987 it was clear many cities would not meet the Clean Air Act's ozone and carbon monoxide health standards by the December 31, 1987, deadline. H.R. 3054 addressed this problem and adopted a new philosophy for dealing with these nonattainment areas. Instead of requiring the same control measures for all areas, the bill divided nonattainment areas into three categories: moderate, serious, and severe.

Moderate nonattainment areas, which are cities very close to attaining the standards (e.g., Memphis), would have been given a three-year extension and would not have faced additional control requirements, other than complying with existing law.

Serious nonattainment areas, which include cities with more difficult air pollution problems (e.g., St. Louis, Dallas), would have been given a five-year extension. These areas would have had to tighten requirements for new facilities and implement more effective automobile inspection and maintenance programs.

Severe nonattainment areas, which are cities with the worst air pollution problems (e.g., Los Angeles, Houston) would have received a ten-year extension. In order to receive this additional time, these areas would have to meet the bill's most stringent requirements and adopt new control measures (e.g., vapor recovery during automobile refueling, emission limits for small sources). These areas would also have been required to implement an aggressive and effective alternative fuels program.

The Waxman-Lewis bill's overriding philosophy was that cities with different problems, like Los Angeles and Memphis, should be treated differently. Accordingly, the bill tried to tailor control programs to specific pollution problems.

H.R. 3054 also would have modified the Clean Air Act's sanction policy by eliminating the law's construction ban and ensuring that sanctions would not apply for failure to meet standards so long as areas took the required pollution control steps. Instead, nonattainment areas that acted in good faith would simply move to the next control category (e.g., serious to severe) and implement tougher control requirements. Sanctions would have applied to areas that failed to implement control measures, however.

The Waxman-Lewis bill also relied on tighter controls on new cars and other mobile sources. These measures included tighter tailpipe standards for cars produced in the early 1990s (.4 grams per mile (gpm) for NO_x, .25 gpm for hydrocarbons), onboard canisters to control refueling emissions, and regulation of nonroad vehicles (e.g., trains, construction equipment).

H.R. 5469 (GROUP OF 9 BILL, INTRODUCED ON OCTOBER 5, 1988)

After Congress adopted the Conte Amendment extending the Act's deadlines, nine members of the Energy and Commerce Committee began meeting to draft their own acid rain and nonattainment proposals. Although these members—known as the Group of 9—were not able to reach a consensus within the group on an acid rain bill before the adjournment, they did introduce their own nonattainment bill.

This proposal was first released in preliminary draft in March 1988. Overall, it adopted the basic structure of the Waxman-Lewis bill. The country was divided into different nonattainment regions, although the sponsors opted for four categories—with longer deadlines—instead of the three categories used in H.R. 3054. H.R. 5469's categories and deadlines were as follows: Moderate 1 (1992), Moderate 2 (1996), Serious (1998), severe (2006).

The proposal was subsequently modified in June 1988. Although many of the differences between the two drafts were minor, some represented significant changes in control requirements. For instance, the first draft would have tightened the current 1.0 gpm NO_x standard for cars to .4 gpm. The second draft replaced the .4 gpm standard with a .7 gpm level. This version—with some additional changes—was eventually introduced as H.R. 5469.

Although the bill's framework was similar to H.R. 3054, it contained two fundamental differences. First, H.R. 5469 placed a much greater emphasis on planning. The bill required a comprehensive identification of pollution sources (inventories) and better reporting on emissions from sources (emissions statements). H.R. 5469 also called for the use of state-of-the-art air models to develop effective pollution control strategies. In order to provide more time for the development of these plans and inventories, H.R. 5469 allowed states four years before they would have to put their plans into effect. Some control measures, however, would have to be implemented immediately.

The second major difference was the treatment of cars and trucks. Although H.R. 5469 contained some new requirements, it had far fewer mandated control measures than H.R. 3054. In addition, the bill weakened how the current law's in-use provision, which is one of the fundamental principles of mobile source control, would apply to new tailpipe standards. The Act now requires cars to meet tailpipe standards both when they leave the factory and after driven on actual road conditions for 50,000 miles. H.R. 5469 would not have required its new tailpipe standards to be applied in-use until 1998.

THE 101ST CONGRESS

H.R. 5469 has been reintroduced in the 101st Congress as H.R. 99. H.R. 3054 will be reintroduced—with several significant changes—in April.

[From the Clean Air Facts, Apr. 13, 1989]

CONTROL STRATEGIES FOR MOBILE SOURCES

Mobile sources, principally cars and trucks, are the largest single source of ozone and carbon monoxide pollution. Nationally, they are responsible for roughly 50 percent of all volatile organic compound (VOC) emissions, also called "hydrocarbons" (HC), and 45 percent of all nitrogen oxide (NO_x) emissions. As described in Issue 2, these compounds react in the presence of heat and sunlight to form ozone. Mobile sources are responsible for an even higher percentage—over 90 percent—of the carbon monoxide pollution in urban areas.

This Fact Sheet discusses strategies for controlling ozone and carbon monoxide pollution from mobile sources. It divides mobile source controls into general categories, such as tailpipe standards and inspection and maintenance programs. Then for each category of controls, it discusses a menu of specific control options. This menu is drawn from bills introduced in the 100th Congress, from proposals put forth by environmental and industry groups, and from other sources.

I. OVERVIEW

The very persistence of widespread ozone and carbon monoxide pollution illustrates the difficulties of controlling these air pollutants. In many cities, VOC emissions must drop 40 percent to 60 percent from today's levels before the ozone standard will be attained. Nonattainment areas must use dozens of measures—each producing small incremental gains—to achieve the federal health standards.

Controls on emissions from mobile sources will be an important part of these efforts for a simple reason: mobile sources are the largest source of ozone and carbon monoxide pollution.

Ozone forms when precursor emissions—VOCs and NO_x—released into the atmosphere react photochemically. Mobile sources generate the largest single share of the national inventory of these precursor pollutants: 50 percent in the case of VOC emissions and 45 percent in the case of NO_x emissions. The table below identifies the principal sources of VOC and NO_x emissions from mobile sources.

TABLE 1.—PERCENT OF EMISSIONS OF OZONE PRECURSORS FROM MOBILE SOURCES

[Percent of national inventory from all sources in parentheses]

Source:	VOC	NO_x
Passenger cars	(25) 50	(17) 38
Light-duty trucks	(8) 16	(7) 16
"Nonroad" vehicles (e.g., trains, construct. equip.)	(7) 14	(9) 20
Gasoline refueling	(7) 14	NA
Heavy-duty trucks	(3) 6	[1] (9) 20 [2] (2) 4

[1] Diesel. [2] Gasoline.

In the case of carbon monoxide (CO), mobile sources are an even more significant source of pollution. They cause over 90% of CO pollution in most urban areas.

There is no single approach that can eliminate the pollution from mobile sources. Rather, achieving significant reductions in VOC, NO_x, and CO emissions will require using a host of measures, including tighter tailpipe standards, enhanced inspection and maintenance programs, controls on fuel volatility, controls on evaporative emissions and running losses, and measures promoting alternative fuels, among others. These measures will have to be applied to a wide range of mobile sources. They are discussed below.

II. TAILPIPE STANDARDS

A. History and Current Status

The 1970 Clean Air Act forced technological innovation on the automobile industry. It requried the U.S. EPA to set tailpipe standards that reduced hydrocarbon, nitrogen oxide, and carbon monoxide pollution in automobile exhaust by 90%. No technology existed at the time to meet the Act's standards. The theory was that the standards would force the development of brand-new technology.

The theory worked. EPA set an exhaust of 0.41 grams per mile (gpm) for HC emissions. It set a standard of 0.40 gpm for NO_x, which was subsequently relaxed in the 1977 Clean Air Act Amendments to 1.0 gpm. And it set a standard of 3.4 gpm for CO. The automobile industry responded by developing the "catalytic converter," which fits on the end of the tailpipe and converts HC, NO_x, and CO into carbon dioxide, water vapor, and nitrogen gas. The original standards, as amended in 1977, remain in effect today.

Unlike its treatment of cars, the Act did not set standards for trucks and buses. Instead, it gave EPA rulemaking authority to set appropriate standards. The most recent truck and bus standards were promulgated in 1985. They vary according to the weight of the vehicle and are still in the process of being phased in for some vehicle classes.

The federal standards preempt state standards except in California, which is authorized under the Act to adopt more stringent standards. California has used its independent authority to tighten the federal standards in two important ways. California is phasing in a new NO_x standard for passenger cars of 0.40 gpm, sixty percent lower than the federal standard. In addition, unlike EPA, California requires many light trucks and vans to meet the same standards it applies to passenger cars. The Act permits other states to adopt the complete package of standards for vehicles—something that several states have recently indicated that they intend to do.

Both the federal and the California standards must be met by cars at "certification," when the vehicle comes off the assembly

line, and "in-use" for the "useful life" of the vehicle. The Act defines the useful life of a car as five years or 50,000 miles of use. EPA has defined useful life as 11 years or 110,000 miles in the case of light-duty trucks and as even longer (up to 285,000 miles) in the case of some heavy-duty trucks. As a practical matter, the in-use standard is controlling. In order to meet the in-use standard, new vehicles regularly certify at levels well below the relevant standards.

When vehicles fail to meet the relevant tailpipe standards throughout their useful life, two things happen. The Clean Air Act requires automobile manufacturers to warrant that their vehicles are free from defects that cause violations of the standards during the vehicle's useful life. As a result, if the failure to meet the standards can be attributed to a defect in the vehicle, the vehicle will be subject to repair under warranty. In addition, if EPA determines that a substantial number of vehicles of a certain class violate the standards during their useful life, EPA can require the manufacturer to recall the class for repairs. After a vehicle's useful life ends, the manufacturer's responsibility for its emission performance ends.

B. Levels of Exhaust Emissions

Tailpipe standards control "exhaust emissions," the pollutants emitted out the tailpipes of vehicles. The best data currently available show that exhaust emissions account for about one third of the VOC emissions from passenger cars. The remaining VOC emissions from passenger cars are "evaporative emissions" and "running losses," which occur when gasoline evaporates from parked and running cars. The design of light-duty trucks minimizes evaporative and running losses, because the relatively large distance between the engine and the gas tank keeps the gas tank cool and reduces evaporation. Exhaust emissions make up about half (46 percent) of the VOC emissions from light-duty trucks.

NO_x and CO emissions are exclusively a by-product of combustion, so all NO_x and CO emissions from mobile sources are exhaust emissions.

In the absence of new standards, the turnover of the fleet will reduce exhaust emissions from highway vehicles because cleaner new vehicles will replace older vehicles. Over time, however, increases in the number of vehicles on the road and the number of miles driven will erode the benefits from fleet turnover. The best estimates are that in comparison to today's levels—and in the absence of any new standards—VOC exhaust emissions from highway vehicles (cars, trucks, and motorcycles) will drop about 30 percent by the late 1990s and then turn upwards. The level of future increases will ultimately depend on overall growth in vehicle miles travelled (VMT), which is expected to average about 2.5 percent each year.

NO_x and CO exhaust will follow a similar pattern without new controls, but with fewer emission reductions. By the late 1990s, for example, NO_x emissions from highway vehicles should drop about 15 percent and then turn upwards.

C. Proposals for Reductions

An array of proposals have been put forward for reducing exhaust emissions from highway vehicles. In each case, because it takes about ten years for a new generation of vehicles to replace an existing generation, the full benefits of adoption of the proposal would not be obtained in practice until about ten years after the proposed standard went into effect.

1. Hydrocarbon Standards for Passenger Cars

The current HC standard for passenger cars is 0.41 gpm. It must be met at both certification and in-use for 50,000 miles.

The proposals for tightening this standard are usually expressed in terms of total hydrocarbons emitted ("HC"), as is the current standard. Sometimes, however, they are expressed in terms of "nonmethane hydrocarbons" (NMHC) emitted. Methane constitutes about 15 percent of the hydrocarbons in the exhaust of a typical gasoline-fueled passenger car equipped with a catalyst. It is a relatively inert gas, so it has low photochemical reactivity and does not contribute significantly to ozone formation. However, methane is a "greenhouse gas" that does contribute to global warming.

The proposals for reducing the HC exhaust emissions from passenger cars range from a NMHC standard of 0.25 gpm that would apply at certification, but not in-use, to a standard that would require zero emissions of hydrocarbons in-use for 100,000 miles. The 0.25 NMHC standard at certification would produce few reductions in HC emissions. In fact, over 80 percent of the passenger car fleet already certifies at 0.25 NMHC standard in order to comply with the current HC standard of 0.41 gpm in use. As the standard tightens from this point, important reductions in the pool of HC emissions begin to be obtained.

Intermediate standards that have been proposed include applying the 0.25 NMHC in-use for 50,000 miles, applying a 0.25 HC standard in-use for 50,000 or 100,000 miles, and applying a 0.125 HC standard in-use for 50,000 or 100,000 miles.

The 0.25 NMHC standard at certification is demonstrated technology. Experts debate whether current technology exists to meet a 0.25 NMHC or HC standard in-use for 50,000 miles. Extending a 0.25 HC standard in-use to 100,000 is a technology-forcing standard in the sense that it would require auto manufacturers to use more durable pollution control devices than are currently available. More stringent standards than this are also technology forcing. Achieving the 0.0 HC standards than this are also technology forcing. Achieving the 0.0 HC standard would require replacing the internal combustion engine on passenger vehicles with engines using a different technology, such as battery-powered electric engines.

2. NO_x Emissions from Passenger Cars

The current NO_x standard for passenger cars is 1.0 gpm. It must be met both at certification and in-use for 50,000 miles.

The proposals for tightening this standard range from a standard of 0.7 that would apply at certification only to a standard that would eliminate all NO_x emissions from passenger cars. The most lenient 0.7 standard, like the most lenient HC standard, would produce minimal reductions in emissions because it is already being met by over 80 pecent of the fleet.

Intermediate standards that have been proposed include a 0.4 standard that would apply at certification, a 0.4 standard that would apply in-use for 50,000 or 100,000 miles, and a 0.2 standard that would apply in-use for 50,000 or 100,000 miles.

A standard of 0.4 applied in use for 50,000 miles is demonstrated technolgoy. It has been adopted by California and will be met by 40 percent of the new cars there this year (it will be fully phased in by 1991). More stringent standards are technology forcing to varying extents. As in the case of HC emissions, achieving a 0.0 standard would require eliminating the internal combustion engine.

3. CO Emissions from Passenger Cars

The current CO standard for passenger cars is 3.4 gpm. It must be met both at certification and in-use for 50,000 miles.

Because CO is a problem especially during cold weather, most legislative proposals for tightening the standard limit CO emissions under these conditions specifically. One proposal would require that passenger cars achieve an emission rate of 40 degrees Fahrenheit that is 50 percent of the rate achieved at that temperature by cars manufactured between 1981 and 1985. A more conservative standard would require that the 50 percent reduction be achieved at 20 degrees Fahrenheit. And a third would require that cars be able to comply with the existing 3.4 gpm standard even when operating at 20 degrees Fahrenheit.

It is technologically feasible to reduce CO emissions by 50 percent from the levels obtained by 1981–85 cars at either 40 degrees or 20 degrees Fahrenheit. More stringent standards are technologically forcing to varying extents.

4. Light-Duty Truck Standards

Federal regulations define a light-duty truck as a truck or van weighing less than 8,500 pounds. The emission standards are 0.80 gpm for HC, 1.2 gpm for NO_x (1.7 gpm for NO_x for trucks weighing over 3,750 pounds), and 10.0 gpm for CO. The standards must be met at certification in-use for 120,000 miles.

The proposals for tightening these standards generally follow the same approach as the proposals for tightening the standards from passenger cars. They range from a proposal that would tighten just certification requirements (to 0.50 NMHC and 0.80 NO_x) to standards that would eliminate all emissions of HC, NO_x, and CO by eliminating use of the internal combustion engine. As is the case with the standards for passenger cars, the more lenient propoals do not obtain significant emissions reductions, but are achievable with demonstrated technology. In contrast, the most stringent ones do obtain significant reductions, but are technology forcing.

A different type of approach is to redefine some light-duty trucks as passenger cars. Many of these trucks have essentially the same engines as passenger cars. This is the approach taken in California, where light-duty trucks and vans below 3,750 pounds are required to meet the state's 0.39 NMHC and 0.4 NO_x standards in use for 50,000 milies.

5. Other Tailpipe Standards

There are also a variety of proposals being considered to tighten exhaust emissions from heavy-duty trucks and motorcycles.

Emission standards for heavy-duty vehicles are measured in grams per brake-horsepower hour (g/bhp-hr), which is a measurement of grams of emissions per unit of work. They vary according to the weight to vehicle, and according to whether the vehicle is fueled by gasoline or diesel fuel. Current standards for gasoline-fueled heavy-duty engines are 1.1 g/bhp-hr for HC (1.9 g/bhp-hr for vehicles weighing over 14,000 pounds), 6.0 g/bhp-hr for NO_x (dropping to 5.0 g/bhp-hr by 1991), and 14.4 g/bhp-hr for CO (37.1 g/bhp-hr for vehicles weighing over 14,000 pounds). For diesel-fueled heavy-duty engines, the HC standard is 1.3

g/bhp-hr, the NO_x standards are the same as for gasoline-fuelded vehicles, and the CO standard is 15.5 /bhp-hr. All the standards apply at certification and over the useful life of the vehicle, which is defined as 110,000 to 290,000 miles depending on the weight of the vehicle.

Proposals for tightening the standards for heavy-duty vehicles include lowering the NO_x standard to 4.0 or 1.7 g/bhp-hr and lowering the CO standard to 5.6 to 14.4 g/bhp-hr, depending on the type of vehicle.

The current motorcycle standards are 5.0 grams per kilometer (gpk) for HC and 12.0 gpk for CO. Proposals for tightening the standards include lowering the HC standard to 2.0 or 3.6 gpm depending on the type of motorcycle and lowering the CO standard to 17.6 gpm.

III. THE FEDERAL TEST PROCEDURE AND THE SELECTIVE ENFORCEMENT AUDIT

The reductions in emissions produced by tailpipe standards are sensitive to the conditions under which compliance is tested. This procedure is called the Federal Test Procedure (FTP). The FTP is supposed to be representative of "real-world" driving conditions. During the FTP, a vehicle is driven over a 7.5 mile course, at various speeds (averaging 19.6 mph) and with a prescribed number of starts and stops. If the emissions rate of the vehicle during the FTP is below the relevant federal standard, the vehicle passes the test.

Because of changes in engine design and other factors, however, the FTP no longer is fully representative of actual conditions. For example, cars have much more rapid acceleration today than they did when the FTP was developed. This ability bears upon the exhaust emissions of the vehicle, because the stress of rapid acceleration reduces combustion efficiency and increases HC emissions. Yet the FTP does not include episodes of rapid acceleration in its prescribed course. Another problem with the FTP is that it requires vehicles to use gasoline with a lower volatility than is common today, thereby again underestimating real-world emissions. And another problem is that the temperature range of the FTP (68 to 86 degress Fahrenheit) is lower than the temperatures prevailing on many hot days when ozone levels reach their peaks.

Revising the FTP to reflect real-world conditions more accurately would eliminate these discrepancies and thereby reduce HC, NO_x, and CO emisssions from vehicles.

The selective enforcement audit (SEA) is related to the FTP. During the SEA, EPA pulls vehicles randomly from the assembly line to test whether they comply with federal tailpipe standards during the FTP. Under current SEA procedures, a vehicle class is deemed to meet federal requirements even if 40 percent of the cars evaluated in the SEA fail to pass the FTP.

Tightening the SEA to require that 90 percent of all vehicles tested pass probably would not reduce emissions from current levels significantly, because manufacturers generally have a better than 90 percent compliance rate anyway. However, it would close a protential loophole in the regulations and prevent its exploitation in the future.

IV. INSPECTION AND MAINTENANCE PROGRAMS

Inspection and maintenance programs work to ensure that cars achieve low emission levels in use. They require periodic testing of vehicles for compliance with a "cut point," which is a state-selected measure of permissible exhaust emissions during idling. When a vehicle fails the inspection, the owner is required to repair the vehicle, unless the repair costs exceed a specified limit. When the costs exceed the specified limit, the owner's repair obligation is waived.

The 1977 Clean Air Act Amendments required that all areas seeking to extend the attainment deadline for ozone or carbon monoxide pollution to December 31, 1987, implement I&M programs. Although every nonattainment area now has or is in the process of implementing an I&M program, the programs in many areas have been criticized as inadequate. Two of the major problems are the poor quality of testing instruments, which allow too many vehicles to pass the inspection, and abuse of the repair-cost waiver by inspectors. "Decentralized" programs, which allow I&M testing to be conducted at private service stations throughout the area, have proven to be substantially less effective than ones that centralize the testing.

"Improved" or "enhanced" I&M programs have been proposed to address the deficiencies of existing programs. Such programs could include any or all of the following measures: (1) a requirement that the program cover all light-duty vehicles operating in the program area, not just passenger cars, (2) expansion of the coverage of the program to include the entire metropolitan area, (3) annual testing, (4) direct inspection of emission control components, (5) centralized and computerized testing, and (6) an increase in the repair cost waiver to $200.

V. EVAPORATIVE EMISSIONS AND RUNNING LOSSES

A. Background

The exhaust emissions discussed so far cause nearly all of the NO_x and CO emissions produced by highway vehicles. They cause only a portion of the VOC emissions, however. Evaporative emissions and running losses are also responsible for large VOC losses, especially during warm weather. (The third important source of VOC emissions from highway vehicles—refueling emissions—are discussed below.)

Evaporative emissions are the emissions produced by evaporation from the fuel tank and fuel lines in parked cars. EPA regulations require manufacturers to install small charcoal canisters in their vehicles to capture these emissions. But these canisters are frequently overwhelmed by the level of evaporation on hot days.

"Running losses" are similar to evaporative emissions, except that they occur when the vehicles are in operation. The combination of hot weather and hot engines can cause massive amounts of evaporation from the fuel tank. On some days, the running losses per mile can be an order of magnitude higher than exhaust emissions.

In combination, evaporative emissions and running losses can account for two thirds of the VOC emissions from passenger cars.

As mentioned earlier, evaporative emissions and running losses are lesser problems in light-duty trucks. The design of these vehicles places the gas tank away from the engine, where it keeps cool, thereby reducing evaporation. On average, running losses account for about half of the VOC emissions from light-duty trucks.

B. Controls on fuel volatility

A major factor affecting the rate of evaporative emissions and running losses is the "volatility" of gasoline. Volatility is a measure of the evaporative potential of a fuel. The higher its volatility, the more readily a fuel evaporates into the air.

In the past 10 to 15 years, gasoline volatility has risen from an average summertime Reid Vapor Pressure (RVP) of 9.0 pounds per square inch to an RVP of 11.5. The RVP increase has occurred because petroleum refiners have added butane to fuels to reduce costs and increase performance. The increased volatility has led to substantially higher levels of VOC pollution from motor vehicles and service stations.

Sone states have acted on their own initiative to lower fuel volatility. Since the early 1970s, Southern California has limited volatility to 9.0 RVP. A number of Northeast states adopted regulations that would have reduced volatility levels to 9.0 for the first time this summer. In March 1989, however, EPA issued nationwide regulations setting an RVP limit of 10.5 for most states. This action may preempt the Northeastern states' volatility regulations (but not California's, due to special provisions in the Clean Air Act). EPA has said it will consider further restrictions in a later rulemaking.

Adoption of lower volatility standards is one of the most cost-effective control strategies available. Lowering the standard from 11.5 to 10.5 as EPA has done, however, achieves only about half of the reductions that lowering the standard to 9.0 would achieve.

C. Other measures

Restrictions on fuel volatility alone cannot eliminate evaporative emissions and running losses. To achieve this goal, some sort of on-board controls, such as enlarged charcoal canisters or systems to burn off excess vapors, are needed.

VI. REFUELING EMISSIONS

A related issue is how to control gasoline vapors that are displaced from the fuel tank when automobiles are refueled at gasoline service stations. These emissions currently account for about 7% of the national VOC inventory.

Two strategies are under consideration. One would mandate that gas stations in nonattainment areas install "stage II" control technology, which is, in essence, a series of hoses that recycle escaping fumes back to the storage tank. This approach is already in place in D.C. and Southern California and has recently been adopted by New York and New Jersey. The second approach is termed "on-board" technology. This approach would require auto-makers to place a canister to recapture fuel vapors in the gas tanks of cars.

After more than a decade of analysis, EPA has concluded that stage II would achieve ozone pollution reductions more rapidly, because it would not be necessary to wait for the turnover of the auto fleet to achieve reductions. On the other hand, it has concluded that on-board technology would be more effective once eventually in place, and would encounter less consumer resistance. EPA proposed requiring on-board technology in an August 1987 rulemaking, but its proposal has recently been rejected by the White House Office of Management and Budget.

VII. ALTERNATIVE FUELS

A. Background

Ultimately, one of the best prospects for reducing ozone levels in severe nonattainment areas is switching to alternative or "clean" fuels that produce less pollution than does gasoline. The leading alternative fuels are methanol, which is currently made

from natural gas (methanol can also be made from coal); ethanol, which is made from grains; and compressed natural gas (CNG).

These fuels have a tremendous capacity to reduce the contribution of motor vehicles to ozone formation. When they are burned, they produce exhaust gases that are far less photoreactive than the gases in the exhaust of gasoline-fueled motor vehicles. As a result, according to some estimates, use of "neat" (100 percent pure) alternative fuels can reduce ozone formation from motor vehicles by as much as 90 percent.

The emission-reduction gains are lower when methanol is blended with gasoline. In the case of "M85," a common blend of 85 percent methanol and 15 percent gasoline, the emission reductions are about 30 percent. Blends can increase the safety of methanol, because pure methanol is odorless and burns invisibly. Research is being conducted into other additives that would enhance the safety of methanol without compromising its potential to reduce emissions as significantly.

Alternative fuels have been used on demonstration vehicles for several years. Methanol bus programs are operating or planned for San Francisco, Los Angeles, Jacksonville, Seattle, Denver, and New York. A fleet of methanol-fueled Ford Escorts has logged over 20 million miles in California. Brazil's transportation system runs predominantly on fuels containing ethanol.

The alternative fuels are more efficient than gasoline in the sense that less of their energy content is wasted during combusion; however, one drawback is that their energy content is less, so fuel tanks must be larger to give vehicles equivalent range. Another potential drawback is that vehicles fueled with methanol and ethanol emit more formaldehyde than gasoline-fueled cars. However, these emissions can be controlled through catalytic converters. If coal becomes a commmercial source of methanol, its production could aggravate global warming by increasing carbon dioxide emissions, unless a carbon dioxide emissions standard is placed on the coal plants.

Centrally fueled fleets are in especially attractive place to begin to phase in alternative-fueled vehicles. Fleets of ten or more vehicles drive about 15 percent of all miles traveled. When they are refueled at a central facility, as is often the case, they can convert to alternative fuels without waiting until private gas stations begin dispensing alternative fuels. In addition, they often have mechanics on hand who can be specially trained to maintain alternative-fueled vehicles.

B. ALTERNATIVE FUEL PROGRAMS

As with tailpipe standards, there are an array of alternative proposals for lowering ozone pollution through the use of alternative fuels. These range from requiring new additions to federally owned fleets to use alternative fuels, to requiring new additions to all centrally fueled fleets to use alternative fuels, to requiring all new vehicles to use alternative fuels.

VIII. TRANSPORTATION CONTROL PLANS

A. Background

A final way to reduce pollution from highway vehicles is to reduce the number of miles that the vehicles travel. This approach relies on the development and implementation of transportation control plans (TCPs). These plans reduce vehicle miles travelled (VMT) through measures such as high-occupancy vehicle lanes, improved public transit, carpooling programs, tolls, and parking fees and restrictions. Broadly conceived, TCPs can also include land-use measures, such as encouraging the development of housing close to jobs to reduce commuting distances.

The 1970 Clean Air Act required states to include TCPs in their implementation plans to the extent necessary to achieve compliance with the federal health standards. When states failed to include TCPs in their plans, EPA proposed federal ones. This provoked a backlash against federal assumption of a traditionally local function. The 1977 amendments restricted EPA's ability to engage in transportation planning. It allowed EPA to approve implementation plans containing measures such as parking surcharges, but prohibited the agency from imposing such measures itself.

To promote transportation planning at a local level in nonattaiment areas, the 1977 amendments did, however, require highway and other transportation projects funded by the federal government to "conform" with the area's air pollution plan. EPA interprets this requirement to mean that a federally funded highway project must include measures to prevent emissions growth attributable to the new highway from worsening the area's air pollution problem. The Department of Transportation, which awards the federal funding, takes a more restrictive view of "conformity," however: it finds projects in conformity so long as they do not interfere with the adoption pollution control measures identified in the implementation plan.

B. Legislative options

There is a large menu of options for transportation control planning. These include (1) requiring EPA to issue TCP guidelines for use by states, (2) requiring that projects funded by federal highway funds do not increase emissions, (3) redirecting federal highway funds to projects that reduce VMT, and (4) placing a cap on VMT growth.

IX. "NONROAD" vehicles

A related source of VOC and NO_x emissions are "nonroad" vehicles, such as construction equipment and trains. These sources are responsible for 7 percent of the inventory of VOC emissions and 9 percent of the NO_x emissions from mobile sources (3.5 percent and 4 percent of the national inventory of VOC and NO_x emissions).

One option for controlling emissions from nonroad sources is to require the greatest reduction in emissions from the sources that is "technologically achievable" as determined by EPA. Another option—one that gives less discretion to EPA—is to apply emission standards to the nonroad sources that are equivalent to the emission standards that apply to highway vehicles of equivalent horsepower.

[From the Clean Air Facts, Apr. 19, 1989]

CLEAN AIR GLOSSARY

This Fact Sheet provides a list of acronyms and a glossary of terms used in the debate over the reauthorization of the Clean Air Act. Each of the acronyms—plus over 100 other terms—is defined in the glossary.

CLEAN AIR ACT ACRONYMS

BACT: Best available control technology.
BTY: British thermal units.
CARB: California Air Resources Board.
CASAC: Clean Air Scientific Advisory Committee.
CMSA: Consolidated metropolitan statistical area.
CNG: Compressed natural gas.
CO: Carbon monoxide.
CO_2: Carbon dioxide.
CTG: Control technique guideline.
EDB: Ethylene dibromide.
EKMA: Empirical kinetic modeling approach.
EPA: Environmental Protection Agency.
FIP: Federal implementation plan.
FMVCP: Federal motor vehicle control program.
FTP: Federal test procedure.
G/bhp-hr: Grams per brake-horsepower-hour.
GPM: Grams per mile.
HC: Hydrocarbons.
HDT: Heavy-duty truck.
HOV: High occupancy vehicle.
I&M: Inspection and maintenance.
LAER: Lowest achievable emission rate.
LDT: Light-duty truck.
M85: Blend of 85 percent methanol, 15 percent gasoline.
MIC: Methyl isocyanate.
MSA: Metropolitan statistical area.
MTBE: Methyl tertiary butyl ether.
NAAQS: National ambient air quality standard.
NESHAP: National emission standards for hazardous air pollutants.
NMHC: Nonmethane hydrocarbons.
NO_2: Nitrogen dioxide.
NO_x: Nitrogen oxides.
NSPS: New source performance standard.
O_3/Oz: Ozone.
PM-10: Particulate matter less than 10 microns in diameter.
POTW: Publicly owned treatment work.
RACT: Reasonably available control technology.
ROM: Regional ozone model.
RVP: Reid vapor pressure.
SCR: Selective catalytic reduction.
SEA: Selective enforcement audit.
SIP: State implementation plan.
SO_2: Sulfur dioxide.
SOCMI: Synthetic organic chemical manufacturing industry.
SO_x: Sulfur oxides.
STAPPA: State and Territorial Air Pollution Program Administrators.
TCP: Transportation control plan.
TRI: Toxic Release Inventory.
TSDF: Treatment, storage, or disposal facility.
TSP: Total suspended particulates.
VMT: Vehicle miles traveled.
VOC: Volatile organic compound.

GLOSSARY OF CLEAN AIR ACT TERMS[1]

Acid Deposition: The deposition of acidic pollutants in any of many different forms, including rain, snow, fog, mist, and dry deposition. Acid deposition is caused by emissions of sulfur dioxide (from the combustion of fossil fuels containing sulfur) and nitrogen oxides (from the combustion of fossil fuels). These pollutants form solutions of sulfuric, nitric, and other acids in the atmosphere, which can be carried by winds as small particles or droplets of water for hundreds of miles.

Acid Rain: A form of Acid Deposition. Any precipitation having a pH value of less than that of normal rain, which generally ranges from 5.0 to 5.6.

Air: Pure air is a mixture of gases, including about 78 percent nitrogen, 21 percent

[1] The Environment and Natural Resources Policy Division of the Congressional Research Service and the Environmental and Energy Study Conference provided assistance in the preparation of this glossary.

oxygen, and less than one percent carbon dioxide and other inert gases, with varying amounts of water vapor.

Air Toxics: See Hazardous Air Pollutants.

Alternative Fuels: Substitutes for traditional, liquid, oil-derived motor vehicle fuels, such as gasoline or diesel fuels; includes methanol, ethanol, compressed natural gas (CNG) and others.

Ambient Air: The air that is in the troposphere, and is subjected to meteorological and climatic changes.

Architectural Coatings: Coverings such as paint and roof tar that are used on exteriors of residential, commercial, and industrial structures.

Area Source: An air pollution source that is neither a major stationary source nor a mobile source; e.g., residential furnaces, gas stations, and dry cleaners.

Aromatic: A term applied to organic compounds derived from benzene.

Arsenic: A heavy metal found to be poisonous to animals and humans; emitted by smelters, among other sources. One of the seven hazardous air pollutants for which a national emission standard (NESHAP) has been promulgated.

Asbestos: The fibrous form of several silicate minerals. Asbestos fibers are used for making incombustible or fireproof materials. The manufacture, use, and disposal of asbestos-containing materials is strictly regulated because respiratory damage may result if asbestos fibers are inhaled. One of the seven hazardous pollutants for which a national emission standard (NESHAP) has been promulgated.

Attainment Area: A region that meets the National Ambient Air Quality Standards for a criteria pollutant under the Clean Air Act.

Baghouse: An air pollution abatement device used to trap paticulates by filtering gas streams through large fabric bags usually made of glass fibers.

Benzene: The simplest aromatic hydrocarbon; found in coal tar and used as an industrial solvent, as a gasoline additive, and in some paints and varnishes; a known carciogen. One of the seven hazardous pollutants for which a national emission standard (NESHAP) has been promulgated.

Beryllium: A hard, poisonous, metallic element used in the production of corrosion-resistant alloys. One of the seven hazardous polutants for which a national emission standard (NESHAP) has been promulgated.

Best Available Control Technology (BACT): This is a basic technology requirement of the Clean Air Act. New facilities contructed in "clean air" areas must install best available control technology to control polution. BACT is determined by states on a case-by-case basis, and must be at least as rigorous as industry-wide "new source performance standards." Costs must be considered in determining BACT. Compare Lowest Achievable Emission Rate (LAER), Reasonably Available Control Technology (RACT).

British Thermal Unit (Btu): The quantity of heat absorbed by one pound of water to produce an increase in temperature of one degree Fahrenheit.

Bubbling: A type of emissions trading under the Clean Air Act. Under the Clean Air Act, existing sources in nonattainment areas are required to use reasonably available control technology. Bubbling allows a source to avoid this requirement by obtaining equivalent reductions from another source. Compare Netting.

California Air Resources Board (CARB): Air quality control agency for the State of California.

Carbon Dioxide (CO_2): A colorless, odorless, tasteless gas about 1.5 times as dense as air; released by plant and animal respiration and consumed by photosynthesis. Also a product of combustion of carbon-containing materials, such as fossil fuels.

Carbon Monoxide (CO): A colorless, odorless, poisonous gas produced by incomplete fossil-fuel combustion. One of the six pollutants for which there is a national ambient standard. See Criteria Pollutants.

Carcinogen: A substance that causes cancer.

Catalytic Converter: A device placed in the exhaust system of a motor vehicle, whose purpose is to convert hydrocarbons, nitrogen oxides and carbon monoxide to water vapor, carbon dioxide and nitrogen gas.

Certificate of Conformity: A certificate issued to an automobile manufacture after a new model of motor vehicle passes the Federal Test Procedure. The Clean Air Act prohibits the sale of new motor vehicles that lack a certificate of conformity.

Chlorofluorocarbon (CFC): A stable nontoxic chemical compound whose primary uses include refrigeration, manufacture of insulation and packaging, air conditioning, and cleaning of electronic parts; in the troposphere, CFCs release free atoms of chlorine which contribute to the chemical destruction of ozone in the Earth's stratosphere.

Class I, II, and III Areas: Under the Clean Air Act, clean air areas are divided into three classes. Very little pollution increase is allowed in Class I areas, some increase in Class II areas, and more in Class III areas. National parks and wilderness areas receive mandatory Class I protection. All other areas start out as Class II. States can reclassify Class II areas up or down, subject to federal requirements.

Clean Air Scientific Advisory Committee (CASAC): A committee of the Science Advisory Board, which is a group of independent scientists who review and evaluate EPA studies of regulatory significance.

Clean Coal Technology: An innovative process in which coal burns with reduced emissions and produces less waste than by existing technologies. For power production, these technologies may be applied in two basic ways—retrofitting existing powerplants to improve emissions performance, and repowering plants with technologies that reduce emissions and increase efficiency.

Coal Cleaning: A precombustion process by which coal is physically or chemically treated to remove some of its sulfur in order to reduce sulfur dioxide emissions.

Coal Gasification: The conversion of coal to a gaseous product by reaction with air, oxygen, steam, carbon dioxide, or mixtures of these. Of the dozen existing coal gasification technologies the most advanced is the integrated gasification-combined-cycle (IGCC) method, which removes more than 95 percent of the sulfur in the coal.

Co-fire: The burning of two fuels in the same combustion unit, e.g., coal and natural gas, or oil and coal.

Combustion Modification: A method to decrease NO_x emissions from a powerplant during the combustion process. The combustion temperature is regulated through delayed mixing of fuel and air or by modifying the fuel-air ratio. Major NO_x combustion modification techniques include low excess air (LEA), low-NO_x burners, staged combustion (off-stoichiometric firing), overfire air, flue-gas recirculation, low air preheat, and water injection.

Compressed Natural Gas (CNG): An alternative fuel used in motor vehicles; considered one of the cleanest alternative fuels because of low hydrocarbon emissions that are relatively non-ozone producing. However, it does emit a significant quantity of nitrogen oxides.

Consolidated Metropolitan Statistical Area (CMSA): A statistical area defined by the Office of Management and Budget that contains one million people or more in addition to other criteria. There were 21 CMSAs in the U.S. as of 1986.

Construction Bans: Section 110 of the Clean Air Act requires, upon EPA disapproval of an area's planning requirements for nonattainment, a ban on the construction or modification of any major stationary source of the pollutant for which the area is in nonattainment. It is uncertain whether construction bans must be applied to nonattainment areas that fail to meet the statutory deadlines for attainment.

Consumer Solvents: A volatile liquid capable of dissolving or dispersing one or more other substances used in consumer products, such as household cleaning fluids and paint thinner.

Control Technique Guidelines (CTGs): Documents issued by EPA to assist state and local pollution control authorities to achieve and maintain air quality standards for certain sources through reasonably available control technologies (RACT). Approximately 22 CTGs have been developed for specific sources that emit volatile organic compounds; e.g., a specific CTG was written to control organic emissions from solvent metal cleaning, known as degreasing.

Criteria Document: A detailed review of the health and environmental impacts of a criteria air pollutant, prepared by EPA and expert advisors.

Criteria Pollutants: The Clean Air Act required the Environmental Protection Agency to set air quality standards for common and widespread pollutants after preparing "criteria documents" summarizing scientific knowledge on their health effects. Today there are standards in effect for six "criteria pollutants": sulfure dioxide, carbon monoxide, particulates, nitrogen dioxide, ozone, and lead.

Cyclone Boiler: A water-cooled, horizontal cylinder in which fuel is fired and heat is released at extremely high temperatures; more NO_x emissions are produced than in other boiler configurations.

Diesel Particulate Trap: A device located in the exhaust stream of a diesel vehicle that filters a certain percentage of exhaust particulates. It includes some means by which accumulated particulate can be burned, thus regenerating the trap and making the trap available for continued particulate filtration.

Design Value: The monitor reading used by EPA to determine an area's air quality status. The design value for ozone is the fourth highest reading measured over the most recent three years. The design value for carbon monoxide is the second highest nonoverlapping 8-hour concentration for one year.

Desulfurization: Removal of sulfur from fossil fuels to cut pollution.

Dynamometer: A device for simulating real-world driving conditions; measures or simulates loads, engine torque, and driving forces on vehicles or engines.

Electrostatic Precipitator (ESP): A device which removes dust or other fine particles from a gas by charging the particles with an electric field, and then removing them from

the gas by attracting them to highly charged collector plates.

Emission Cap: A limit designed to prevent projected growth in emissions from existing and future stationary sources from eroding any mandated reduction, and thereby maintaining total emissions at or below a mandated level. Generally, such provisions require any emission growth from facilities restricted by the cap be offset by equivalent reductions at other facilities controlled by the same cap.

Emission Factor: The relationship between the amount of pollution produced and the amount of raw material processed. For example, an emission factor for a blast furnace making iron would be the number of pounds of particulates per ton of raw materials.

Emission Inventory: A listing, by source, of the amounts of air pollutants discharged daily into the atmosphere of a community. It is used to establish emission standards.

Empirical Kinetic Modeling Approach (EKMA): An air quality model, widely used by the states in the 1980s, which factors in the effects of sunlight, chemical reactivity, and ozone transport. However, it uses simplified meteorological conditions and can analyze only maximum concentrations of a pollutant. Compare Urban Airshed Model.

Enhanced Inspection and Maintenance Program: A more thorough and comprehensive inspection and maintenance program. It includes requirements that expand the geographic area and vehicle classes covered, that increase the rate and quality of the inspections, and that raise the repair-cost waiver.

Environmental Protection Agency (EPA): The independent federal agency, established in 1970, that regulates environmental matters and oversees the implementation of environmental laws.

Ethanol: A type of alternative fuel used in some prototype vehicles; derived from agricultural commodities such as grain and corn; usually blended with gasoline to form gasohol.

Ethylene Dibromide (EDB): A gasoline additive used with leaded fuels to scavenge lead; a suspected carcinogen.

Evaporative Emissions: The emissions of volatile organic compounds that are caused by evaporation from the fuel tank and fuel lines of a parked vehicle.

Federal Implementation Plan (FIP): A federally-imposed air quality plan required by the Clean Air Act. It supersedes a state implementation plan, if the state does not adequately plan to attain and maintain the national ambient air quality standards.

Federal Motor Vehicle Control Program (FMVCP): All federal actions aimed at controlling pollution from motor vehicles, e.g., establishing and enforcing tailpipe standards and evaporative emission standards, developing test procedures, providing guidance on inspection and maintenance procedures to the states.

Federal Test Procedure (FTP): The test procedures under which the compliance of a motor vehicle with federal emission standards is determined. In the case of a passenger car, during the federal test procedure a vehicle is "driven" on a dynamometer over a 7.5 mile course, at various speeds (averaging 19.6 mph) and with a prescribed number of stops and starts.

Flue Gas: The air coming out of a chimney after combustion. It can include nitrogen oxides, carbon oxides, water vapor, sulfur oxides, particles, and many chemical pollutants.

Flue-Gas Desulfurization (FGD): A post-combination sulfur dioxide control technology in which a scrubber is placed in the emission stream between the electrostatic precipitator (or baghouse) and the smokestack. In the operation, the exit gas containing the acidic SO_2 reacts with limestone (or lime) to create a calcium by-product. Commonly known as scrubbing; FGD systems can be wet, dry, or regenerable, although wet systems are most widely used.

Fluidized Bed Combustion: A process to remove sulfur dioxide during combustion, where crushed coal is fed into a "bed" mixed with limestone or dolomite. The resulting mixture of coal and limestone is held in suspension by air, or fluidized, and the SO_2 formed during combustion reacts with the limestone or dolomite to form solid calcium sulfate, which is then removed. Also, because the process operates at a lower combustion temperature than a conventional boiler, nitrogen oxide emissions are lower.

Formaldehyde: A reactive, toxic, organic compound; formed in small quantities in all fuel combustion processes, but in larger concentrations in exhaust fumes from methanol-fueled vehicles; used as an embalming fluid; also found in dry-cleaned clothing, particle board, and carpet glues, among others; a possible carcinogen.

Fossil Fuels: Combustibles, like coal, oil, and natural gas, derived from the remains of ancient plants and animals.

Fuel Switching: A precombustion process whereby a lower sulfur coal, oil, or natural gas is used in place of a higher sulfur coal in a power plant to reduce emissions of sulfur dioxide.

Gasohol: A mixture of gasoline and ethanol derived from fermented agricultural products containing at least nine percent ethanol. Five to ten percent of the motor fuel sold is gasohol. Emissions result in less carbon monoxide than gasoline.

Grams Per Brake-Horsepower-Hour (g/bhp-hr): A measure of allowable tailpipe emissions of carbon monoxide, hydrocarbons, and nitrogen dioxide for heavy-duty gasoline and diesel-powered trucks and buses.

Grams Per Mile (gpm): A measure of allowable tailpipe emissions of carbon monoxide, hydrocarbons, and nitrogen dixoide for passenger cars and light-duty trucks.

Greenhouse Effect: The phenomenon in which the sun's energy, in the form of light, passes through the air and is absorbed by the Earth, which then reradiates the energy as heat that the air absorbs. The air thus behaves somewhat like glass in a greenhouse, allowing the inward passage of light but not the outward passage of heat. Carbon dioxide, methane, chlorofluorocarbgons, and other pollutants contribute to the process. The Greenhouse effect will lead to a general warming trend and subsequent climactic changes.

Hazardous Air Pollutants: An air pollutant other than a criteria air pollutant that causes or may reasonably be anticipated to cause an increase in mortality or serious illness. See National Emission Standards for Hazardous Air Pollutants (NESHAP).

Heavy-Duty Truck (HDT): Under EPA regulations, a truck weighing over 8500 pounds.

Hotspots: Localized areas of high air pollution levels. Example: a busy intersection that experiences high carbon monoxide levels.

Hydrocarbons (HC): Any of a vast family of compounds containing hydrogen and carbon. Used loosely to include many organic compounds in various combinations; most fossil fuels are composed predominately of hydrocarbons. When hydrocarbons mix with nitrogen oxides in the presence of sunlight, ozone is formed; also referred to as volatile organic compounds (VOC).

Incinerator: A controlled chamber where waste substances are burned.

Increments: Allowable air pollution increases in clean air regions are measured in increments above existing "baseline" levels. New industrial sources in clean air areas are allocated portions of the regional increment. Once the increment for the region is used up, no additional industrial growth is permitted.

Indirect Source: Any facility, building structure, installation, real property, road, highway or parking facility that attracts motor vehicle traffic and, indirectly, causes air pollution.

Inspection and Maintenance (I&M): Inspection and maintenance of auto emissions controls. In states with inspection and maintenance programs, automobiles must be checked periodically for excess hydrocarbon and carbon monoxide emissions. If excess emissions are found, the owner must have the vehicle repaired, unless the repair-cost waiver is exceeded. Compare Enhanced Inspection and Maintenance.

Inversion: An atmospheric condition caused by a layer of warm air preventing the rise of cool air trapped beneath it. This holds down pollutants that might otherwise be dispersed, and can cause an air pollution episode.

Lead (Pb): A heavy metal used in many industries, which can accumulate in the body and cause a variety of negative effects. One of the six pollutants for which there is a national ambient air quality standard. See Criteria Pollutants.

Lifetime risk: The probability of contracting or dying from a disease, calculated from birth or any subsequent time. EPA assumes a typical lifetime to be 70 years.

Light-Duty Truck (LDT): Under EPA regulations, a truck or van weighing less than 8500 pounds.

Limestone Injection Multistage Burner (LIMB): An emerging control technology used to alter the combustion process in coal burning power plants, whereby limestone is injected into a boiler with coal, causing sulfur dioxide to form solid calcium sulfate.

Liming: The application of alkaline materials, usually limestone, to lakes, streams or solids to temporarily increase the pH to compensate for the effects of acid deposition.

Lowest Achievable Emission Rate (LAER): A stringent level of pollution control required by the Clean Air Act for new or modified industrial facilities in nonattainment areas (areas where air pollution exceeds national air quality standards). The lowest achievable emission rate is defined as either the most stringent emission limitation contained in the implementation plan of any state for a category of sources, or as the most stringent emission limitation achieved in practice within an industrial category. In theory, the lowest achievable emission rate should be more stringent that new source performance standards. Compare Best Available Control Technology (BACT), Reasonably Available Control Technology (RACT).

M85: Automotive fuel that is 85 percent methanol, 15 percent gasoline.

Major Source: A stationary source that emits, or has the potential to emit, 100 tons per year or more of any air pollutant.

Mercury: Liquid metal which damages the nervous system upon inhalation or ingestion. One of the seven hazardous air pollutants for which a national emission standard (NESHAP) has been promulgated.

Methanol: An alcohol that can be used as an alternative fuel or as a gasoline additive. It is less volatile than gasoline; when blended with gasoline, it lowers carbon monoxide emissions but increases hydrocarbon emissions; when used as a pure fuel, its emissions are less ozone-forming than gasoline emissions.

Methyl Isocyanate (MIC): A toxic gas that killed over 3,000 people in Bhopal, India in 1984. Methyl Isocyanate is a frequently cited example of an air pollutant that is not currently regulated by EPA as a hazardous air pollutant.

Methyl Tertiary Butyl Ether (MTBE): A fuel additive containing oxygen, and made from petroleum products (methanol and isobutylene); as an additive to gasoline, it reduces carbon monoxide engine exhaust levels and does not increase HC emissions.

Metropolitan Statistical Area (MSA): Defined by the Office of Management and Budget; a large population center with adjacent communities which have a high degree of economic and social interaction with the center. Each MSA must include at least one city with 50,000 or more inhabitants; as of 1986, there were 265 MSAs in the U.S.

Micron: A unit of length equal to 1/1,000,000 of a meter.

Mobile Sources: Motor vehicles, including cars, trucks, buses, trains and planes. Mobile sources are subject to specific pollution controls under the Clean Air Act.

Monitoring: Periodic or continuous sampling to determine the level of pollution or radioactivity.

Mutagen: A substance that causes mutations.

National Ambient Air Quality Standards (NAAQS): Section 109 of the Clean Air Act requires EPA to set nationwide standards, the National Ambient Air Quality Standards, for widespread air pollutants. Currently, six pollutants are regulated by primary and secondary NAAQS—carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter (PM-10), and sulfur dioxide. See Criteria Pollutants.

National Emission Standards for Hazardous Air Pollutants (NESHAP): Section 112 of the Clean Air Act requires EPA to set emission standards through regulatory promulgations, NESHAPs, for pollutants that may result in an increase in mortality or serious illness. Currently, NESHAPs have been promulgated for some sources of seven pollutants—arsenic, asbestos, benzene, beryllium, mercury, radionuclides, and vinyl chloride.

Natural Gas: A natural fuel containing hydrocarbons that occur in certain geologic formations.

Netting: A type of emission trading under the Clean Air Act. Under the Clean Air Act, a modification of an existing source that increases emissions more than a de minimis amount is normally subject to new source review requirements under the Act's PSD or nonattainment provisions. "Netting" allows the source to escape the new source review requirements by obtaining offset reductions from elsewhere at the source that bring the net emissions increase below the de minimis threshold. Compare Bubbling.

Neurotoxin: A substance that damages the nervous system.

New Source Performance Standards (NSPS): EPA sets minimum federal emissions limits—the new source performance standards—for all new or substantially modified sources in major polluting industries. The standards are based on the best technology currently available.

New Source Review (NSR): Section 110 of the Clean Air Act requires State implementation plans to include a permit review, referred to as a new source review, that applies to the construction and operation of new and modified majority stationary sources in nonattainment areas to assure attainment of the national ambient air quality standards.

Nitrogen dioxide (NO_2): Gases formed primarily from atmospheric nitrogen and oxygen when combustion takes place at high temperature. NO_2 emissions contribute to acid deposition. One of the six pollutants for which there is a national ambient standard. See Criteria Pollutants.

Nitrogen oxides (NO_x): Nitrogen oxides are formed primarily by fuel combustion and contribute to the formation of acid rain. Hydrocarbons and nitrogen oxides combine in the presence of sunlight to form ozone, a major constituent of smog. During 1980, some 21 million tons of nitrogen oxides were emitted in the U.S., according to the Office of Technology Assessment.

Nonattainment Areas: Regions that violate Clean Air Act. Primarily ambient air standards are designated as non-attainment areas. Most major cities in the United States are non-attainment areas for one or more of the criteria pollutants. These dirty air regions are subject to strict controls to bring them into compliance with the standards.

Nonmethane Hydrocarbons (NMHC): All hydrocarbons other than methane, which is a relatively inert hydrocarbon with low photochemical reactivity.

Nonroad Vehicles: Vehicles or items of machinery that use an internal combustion engine but are not regulated as motor vehicles or airplanes under the Clean Air Act. Construction equipment and trains are two examples of nonroad vehicles.

Offset Requirement: The Clean Air Act requires that in nonattainment areas, emissions from major new stationary sources—or increased emissions that result from modernization of existing plants—must be more than offset by reductions from existing pollution sources.

Oil Desulfurization: A widely applied precombustion method to reduce sulfur dioxide emissions from oil-burning power plants, whereby the oil is treated with hydrogen, which partially removes some of the sulfur by forming hydrogen sulfide gas.

Onboard Controls: A vapor recovery system built into automobiles and devised to capture volatile organic compounds released during refueling; reduces the formation of ozone.

Oxidant: A substance containing oxygen that reacts chemically in air to produce a new substance. Ozone, the primary constituents of photochemical smog, is an oxidant.

Ozone (ground level): The prime ingredient of smog. Ozone is produced by the combination of hydrocarbons and nitrogen oxides in the presence of sunlight and heat. Some 68 areas—mostly metropolitan areas—did not meet a Dec. 31, 1987, deadline in the Clean Air Act for attaining the ambient air quality standard for ozone.

Ozone Layer: The protective layer in the earth's stratosphere, about 25 kilometers above the ground; absorbs some of the ultraviolet rays of the sun and thus controls the amount of this potentially harmful radiation reaching the Earth's surface.

Ozone Transport Region: Interstate region across which high levels of ozone pollution are carried by prevailing winds.

pH Value: The pH scale, which is 0 to 14, is used to measure whether a substance is acidic (below 7) or alkaline (above 7). Because the pH scale is logarithmic, there is a tenfold difference between each number. If the pH drops from 7 to 6, the acidity is ten times greater.

PM-10: Particulate matter that measures ten microns in diameter or less—a size considered small enough to invade the sensitive alveolar regions of the lung. One of the six pollutants for which there is a national ambient air quality standard. See Criteria Pollutants.

PSI: Pounds per square inch.

PPM: Parts per million.

Particulate Matter (PM): A wide array of small pieces of solid and liquid matter found in the atmosphere, including soot, dust, organic matter and other materials. Also known as particulates.

Percentage Reduction: The 1977 Clean Air Act amendments added a requirement that new source performance standards for fossil-fuel-fired stationary sources (such as power plants and industrial boilers) achieve a percentage of reduction in emissions, regardless of the amount of pollution emitted. The percentage reduction requirement, together with the requirement that standards be based upon a technological system of continuous emission reduction, was intended to eliminate the option of complying with sulfur dioxide new source standards solely through use of low-sulfur fuel.

Performance Warranty: The requirement under the Clean Air Act that the automobile manufacturer warrant the performance of all components affecting emission levels for the first two years or 24,000 miles of use of the vehicle.

Phosgene: A potent neurotoxin used as nerve gas in World War I. Phosgene is a frequently cited example of an air pollutant that is not currently regulated by EPA as a hazardous air pollutant.

Photochemical Oxidants: Air pollutants formed by the action of sunlight on oxides of nitrogen and hydrocarbons. Ozone is a photochemical oxidant.

Prevention of Significant Deterioration (PSD): In the 1977 Amendments to the Clean Air Act, Congress mandated that areas with air cleaner than required by national ambient air quality standards must be protected from significant deterioration. The Clean Air Act's PSD program consists of two elements—requirements for best available control technology on major new or modified sources, and compliance with an air quality increment system.

Primary National Ambient Air Quality Standards: The national ambient air quality standards set to protect human health with "an adequate margin of safety."

Production Warranty: The requirement under the Clean Air Act that the automobile manufacturer warrant the performance of the key components of the emission control system for the first five years or 50,000 miles of use of the vehicle.

Reasonable Further Progress (RFP): Annual incremental reductions in emissions of an air pollutant reflected in a state implementation plan that is sufficient, according to the EPA, to provide for attainment of the applicable national ambient air quality standard by the statutory deadline.

Reasonably Available Control Technology (RACT): A Clean Air Act standard under which existing polluting facilities in a dirty

air area install retrofit equipment to control air emissions. Compare Best Available Control Technology (BACT), Lowest Achievable Emission Rate (LAER).

Recall: Requirement that an automobile manufacturer recall a class of vehicles due to their failure to comply with federal emission standards during their useful life. EPA is required under the Clean Air Act to order a recall whenever a "substantial number" of vehicles in the class fail to comply.

Refueling Emissions: Emissions released during vehicle refueling—as gasoline vapors in the vehicle fuel tank are displaced by incoming fuel, forced out of the tank, and escape into the ambient air.

Regional Ozone Model (ROM): A photochemical grid model used to simulate the effects of transport of pollutants over a broad regional area.

Reid Vapor Pressure (RVP): A measure of gasoline volatility. Summertime gasoline has an RVP of 11.5 pounds per square inch (psi) in many areas. A 1989 rulemaking by EPA will lower RVP to 10.5 in many areas, however.

Repair-Cost Waiver: Waiver that is available to a motor vehicle owner when the costs of repairing a defective emission control system exceed a fixed threshold, commonly $75. The waiver excuses the owner from the obligation to repair the control system.

Repowering: A substitute for new power plant construction, whereby a plant is rebuilt and most of its major components are replaced.

Running Losses: Evaporation of motor vehicle fuels from the fuel tank or engine while the vehicle is in use.

Scrubber. An air pollution control device that uses a spray of water to trap pollutants and cool emissions.

Secondary National Ambient Air Quality Standards: The national ambient air quality standards that are set to protect welfare, including, but not limited to, effects on "soils, water, crops, vegetation, man-made materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well being."

Selective Enforcement Audit (SEA): A random sampling by EPA of new motor vehicles for the purpose of determining compliance with federal emission standards. A compliance rate of sixty percent is considered passing by EPA currently.

SIP Call: An EPA action requiring a State to resubmit part or all of its state implementation plan (SIP) to demonstrate attainment of the national ambient air quality standards by the statutory deadline.

Smog: Air pollution generated by motor vehicles, industrial activity, and other sources over urban areas. One of its major components is ozone. The term was coined by combining "smoke" and "fog," which smog often resembles. See Ozone.

Stage II Controls: The containment of vapors created during the filling of motor vehicle fuel tanks. Stage II emissions can be controlled either with vapor-recovery gasoline pump nozzles or with filters built into automobile fuel systems. (Stage I emissions occur when a gas station's storage tanks are filled by a delivery truck.)

State and Territorial Air Pollution Program Administrators (STAPPA): A professional organization of State air pollution officials.

State Implementation Plan (SIP): A state's detailed plan for meeting national ambient air quality standards under the Clean Air Act. SIPs must be reviewed and approved by EPA.

Stationary Source: Any building, structure, facility or installation which emits or may emit an air pollutant for which a national standard is in effect.

Stratosphere: The region of the atmosphere above the troposphere. The stratosphere is located about seven miles above the earth and contains relatively large amounts of ozone which protect the Earth from excessive ultraviolet radiation. Compare Troposphere.

Sulfur Dioxide (SO_2): A gas that is produced when fossil fuels, such as coal and oil, are burned. SO_2 is the main pollutant involved in the formation of acid rain. SO_2 also can irritate the upper respiratory tract and cause lung damage, according to EPA. During 1980, some 27 million tons of sulfur dioxide were emitted in the U.S., according to the Office of Technology Assessment. The major source of SO_2 in the U.S. is coal-burning electric utilities.

Synthetic Organic Chemical Manufacturing Industry (SOCMI): A regulatory category of stationary sources of volatile organic compounds.

Tailpipe Standards: Emissions limitations applicable to engine exhausts from mobile sources.

Tampering: Adjusting, negating, or removing pollution control equipment on a motor vehicle; considered illegal in several States, and often checked for during vehicles inspection and maintenance.

Teratogen: A substance that causes developmental deformities in fetuses.

Total Suspended Particulates (TSP): The particulate matter in the ambient air. The previous national ambient air quality standard for particulates was based on TSP levels; it was replaced in 1987 by an ambient standard based on PM-10 levels. Compare PM-10.

Toxic Release Inventory: Inventory of the estimated releases to the air and other media of more than 320 chemicals by large industrial facilities. The inventory is collated from release forms filed by the facilities pursuant to the Superfund Amendments and Reauthorization Act.

Transportation Control Plan (TCPs): Measures adopted by a locality to reduce the amount or improve the flow of traffic to improve air quality; e.g., public transit, carpools, right turn on red, bus lanes, or high occupance vehicle (HOV) lanes.

Treatment, Storage and Disposal Facility (TSDF): Facilities permitted under the Resource Conservation and Recovery Act to handle hazardous waste; a major source of VOC emissions.

Troposphere: The layer of the atmosphere closest to the Earth's surface, within which lower temperatures occur at increasingly higher altitudes. Compare Stratosphere.

Urban Airshed Model: A sophisticated air quality model which takes meteorological conditions into account, and can predict changes in air quality at different locations. It can demonstrate progress in terms of declining peak ozone concentrations, as well as indicate how peak ozone concentrations will change across an entire urban area. It is costly and requires much more data, computer validation, and computer capacity than other models; therefore, this approach has not been used widely by the states. Compare Empirical Kinetic Modeling Approach (EKMA).

Useful Life: The period of time during which a motor vehicle is subject to recall for failure to meet federal tailpipe standards. Under current law, the useful life of a passenger car is considered to be five years or 50,000 miles, whichever comes first; the useful life of a light-duty truck is considered to be 11 years or 120,000 miles.

Vehicle Miles Travelled (VMT): A measure of the extent of motor vehicle operation.

Vinyl Chloride: A flammable, explosive gas; used in adhesives. One of the seven hazardous air pollutants for which a national emission standard (NESHAP) has been promulgated.

Volatile Organic Compounds (VOC): A group of chemicals that react in the atmosphere with nitrogen oxides, heat, and sunlight to form ozone; most hydrocarbons, the latter category playing a major role as ozone precursors.

Volatility: The tendency of a liquid to evaporate.

[From the Clean Air Facts, Apr. 27, 1989]

CONTROLLING OZONE FROM STATIONARY SOURCES

Sources of air pollution can be divided into two basic categories: "mobile sources" such as cars and trucks, which were discussed in Issue 5, and "stationary sources," the subject of this week's Fact Sheet. These sources—which range from large factories and oil refineries, on the one hand, to small dry cleaners and print shops, on the other—account for roughtly half of all emissions of volatile organic compounds and nitrogen oxides, the two principal ozone precursors. Collectively, they cause as much ozone pollution as do the mobile sources.

This Fact Sheet describes strategies for controlling ozone pollution from stationary sources. It is organized along the same lines as Issue 5, which discusses control strategies for mobile sources. It begins with an overview of the problem and then discusses the menu of legislative options for controlling pollution from stationary sources.

I. OVERVIEW

Ozone is a secondary pollutant. As described in Issue 2, it is produced when a mixture of volatile organic compounds (VOCs) and nitrogen oxides (NO_x) cook on a hot day over an urban area. Stationary sources are major emitters of these two precursor compounds.

In the case of VOCs, stationary sources emit 50% of the national inventory. The emissions come from a wide array of sources. The largest single source (16%) is evaporation from solvents used in industrial processes, such as surface coating, degreasing, and wood finishing. Other important sources include evaporation of solvents in consumer and commercial products, such as household cleaners, hairsprays, and adhesives and sealants (7%); hazardous waste facilities (7%); petroleum refineries (6%); and evaporation of architectural coatings (e.g., paints) (2%). Many of the important stationary sources of VOC emissions are small sources, emitting less than 100 (or even 50) tons per year (tpy) of VOCs.

In the case of NO_x, stationary sources account for 55% of the national inventory. The principal stationary sources of NO_x pollution are large facilities: electric utility boilers (33%); industrial boilers (13%); and industrial processes (5%).

Without new controls, emissions of VOCs and NO_x from stationary sources are predicted to grow in the next decades as the country's economy grows. According to some estimates, VOC emissions from stationary sources are likely to grow by about

25% by 2005, while NO_x emissions are likely to grow by 45% over the same period.

There is no single solution to curbing VOC and NO_x pollution from stationary sources. Instead, a host of measures must be used to reduce emissions from both existing and new stationary sources.

II. CONTROLLING VOC EMISSIONS FROM EXISTING STATIONARY SOURCES

The Clean Air Act regulates existing stationary sources and new stationary sources in somewhat different ways. Controls on new sources are generally tighter than controls on existing sources, because it is easier to control emissions from a brand-new plant, which can incorporate the latest control technologies into its design and construction, than it is to control emissions by retrofitting an old plant. In addition, while regulation of existing sources is left almost entirely to the states, many new sources are subject to minimum federal requirements—the new source performance standards (NSPS)—so as to prevent states from bidding down their control requirements in an effort to attract new industry.

Because of these differences, the control options for existing sources (discussed below) and for new sources (discussed in part IV) also differ.

A. The Basic Framework for Regulating Existing Sources

In the case of existing stationary sources in nonattainment areas, the Act provides that the state must require existing sources to use "reasonably available control technology" (RACT) to control emissions. RACT is defined in EPA regulations to mean controls that are reasonably available taking into account the necessity of imposing the controls to achieve compliance with the federal air quality standards, the social, environmental, and economic impact of the controls, and alternative means of attaining the federal air quality standards.

To assist nonattainment states in identifying what technologies are reasonably available, EPA issues "control technique guidelines" (CTGs). While states are technically not required to follow these guidelines, almost all have. When EPA reviews a state implementation plan for a nonattainment area, it presumes that the CTGs identify RACT, unless the state can demonstrate otherwise.

The states are on their own when it comes to identifying reasonably available technology for source categories for which no CTGs have been issued. In many cases, such source categories remain unregulated.

B. Control Options

1. New and Updated CTGs

EPA's program of identifying RACT through control technique guidelines has assisted state regulation of VOC emissions from existing sources. EPA has issued 22 CTGs, for sources ranging from various surface coating facilities, to petroleum refineries, to tire manufacturers. These guidelines provide an objective basis for local RACT requirements. Plus, the national CTGs are an efficient alternative to the separate development of RACT standards in each of the states.

The CTG program has slowed to a halt in recent years, however. There have been no new CTGs issued since 1984. This has left several important sources of VOC emissions unregulated, including hazardous waste facilities and publicly owned treatment works.

To overcome these problems, several bills have proposed mandating that EPA develop new CTGs for the important unregulated sources of VOC emissions. Some bills also propose requiring that EPA review and update its old CTGs for existing sources.

2. Lowering the RACT Threshold

Expanding the number of CTGs is one way of increasing the number of stationary sources of VOC emissions that are regulated. Another option is to lower the threshold for RACT regulation. Currently, EPA requires nonattainment areas to apply RACT requirements only to sources that emit more than 100 tpy of VOCs.

The 100 tpy threshold misses many of the most important sources of VOC emissions from stationary sources. In fact, by some estimates sources above 100 tpy account for less than 10% of the national inventory of VOC emissions, while sources below 100 tpy account for 40% of the inventory. (The remaining 50% of the national VOC inventory comes from mobile sources.)

Legislative proposals have called for lowering the RACT threshold to different levels according to the severity of the ozone problem in the nonattainment area. Threshold levels of 50 tpy, 25 tpy, 10 tpy, 5 tpy, and 2 tpy have been suggested.

3. Restrictions on "Bubbling"

EPA regulations allow nonattainment areas to permit existing sources to meet RACT requirements through emissions trading, otherwise known as "bubbling." The original concept allowed a facility with several emission units subject to RACT requirements to put a fictitious bubble with a single opening over the facility. The facility's compliance with its emission restrictions would then be evaluated in the aggregate, allowing the facility to escape compliance with RACT at one unit if the facility achieved compensating reductions from elsewhere. EPA's regulations have since expanded the bubble concept to permit different sources to trade emissions reductions among themselves.

Bubbling or emissions trading has received criticism on several fronts. It is said to be inconsistent with the basic idea of RACT regulation—namely, the requirement that all existing sources install a minimum level of technological controls. In addition, it is criticized on the grounds that it is hard to administer and readily subject to abuse by sources intent on "gaming" the system. On the other hand, proponents of bubbling say that it allows emission reductions to be obtained from the most cost-effective sources.

Proposals for restricting bubbling include outright bans on emissions trading in all nonattainment areas to proposals that prohibit the use of bubbling only in areas with the most severe air pollution problems. Some have suggested eliminating bubbling in general, but retaining exemptions for small emissions trades. Another option is to permit bubbling, but require greater than one-for-one reductions from the source providing the emission reductions.

4. Market Mechanisms

Market mechanisms have also been proposed as an engine to drive emissions below RACT levels in areas with severe ozone pollution.

There are an array of available tools for providing sources with economic incentives to reduce emissions. These include fees on emissions or a system of marketable permits. A fee system gives sources an incentive to reduce emissions because the smaller the pool of emissions, the lower the total fee to be paid by the source. A system of marketable permits distributes a limited number of permits to emit VOCs and then prohibits unpermitted emissions. By adjusting the number of permits it distributes, the nonattainment area can control the aggregate volume of emissions. By trading among themselves, the sources can even use the free market to allocate the permits most cost effectively.

Other systems of economic incentives could involve local subsidization of pollution control equipment—or even outright purchase of emission reductions from sources.

III. CONTROLLING NO_x EMISSIONS FROM EXISTING STATIONARY SOURCES

Historically, EPA has not required controls on NO_x emissions from stationary source as a part of the control strategy for areas violating Federal air quality standards for ozone pollution. Recently, however, areas such as Southern California have had significant success with programs providing for control of both VOC and NO_x pollution. NO_x controls are now often considered a needed part of an effective ozone pollution control strategy.

A. The Atmospheric Chemistry of NO_x and the HC-NO_x Ratio

Nitrogen oxides are one of the two principal precursors of ozone. In the presence of sunlight, NO_x and VOCs, otherwise known as hydrocarbons (HC), are both involved in reactions that form ozone. NO_x is really two components, nitrogen dioxide (NO_2) and nitrogen oxide (NO), which continuously convert back and forth in chemical reactions triggered by sunlight. Ozone is produced when NO_2 reacts with sunlight, but it can be destroyed (in a process called "scavenging") when it reacts with NO.

The precise impact of NO_x control on ozone levels depends on a host of factors, including total pollutant concentrations and the amount of sunlight present. One important factor is the relative amount of hydrocarbons and NO_x in the air (the HC-NO_x ratio). When hydrocarbon levels are relatively high, the tendency of NO_x to form ozone predominates. In these circumstances, controlling NO_x levels can be the most effective means of controlling ozone formation, because NO_x becomes in essence a "limiting factor" for ozone formation.

Another critical factor is the distance that one measures from the NO_x source. NO_x settles out of the air faster than VOCs. As a result, even if NO_x emissions do produce an ozone depression in the immediate vicinity of the source, they are likely to increase ozone levels in the otherwise VOC-rich areas downwind of the source. Due to this effect, NO_x controls overall tend to reduce ozone levels.

B. Control Options

The same general measures that are available for controlling VOC emissions from stationary sources in nonattainment areas can be used to control NO_x emissions, such as lower RACT thresholds or development of CTGs. Simple reasonably available control technologies include lower combustion temperatures and changing fuel/air mixtures. Such approaches can lower NO_x emissions from utility and industrial boilers by 15% to 50%.

In areas with especially severe ozone pollution, more prescriptive measures have been proposed. One involves mandating the use of "selective catalytic reduction" (SCR). This technology removes NO_x from the exhaust stream by injecting ammonia into the exhaust in the presence of a catalyst, which then converts the NO_x to elemental nitro-

gen and water vapor. SCR is widely used in Japan and Germany and is capable of removing 80% to 90% of the NO_x emissions from utility and industrial boilers.

IV. CONTROLLING EMISSIONS FROM NEW STATIONARY SOURCES

A. The Basic Framework for Regulating New Sources

New sources are uniformly subject to stricter technology standards than existing sources, whether in clean air areas or nonattainment areas. This leads to better air quality as older more polluting facilities are replaced by cleaner, new ones. It also serves to prevent state-shopping by new facilities seeking lenient air pollution laws.

In the case of nonattainment areas, the basic mechanism for regulating new sources is the new source review program. Through this program, states issue permits to all new major stationary sources in nonattainment areas. The "major stationary sources" covered by the new source review program are all sources that emit more than 100 tpy of an air pollutant.

There are two principal prerequisites for issuance of a permit to a new source in a nonattainment area. First, the source must comply with the "lowest achievable emission rate" (LAER). LAER is the emission rate that reflects the most stringent emission limitation for the relevant source category that is contained in any state implementation plan or is achieved in practice. LAER must be at least as stringent as any applicable new source performance standard promulgated by EPA for nationwide application.

Second, the new source must "offset" the increase in emissions it will create by obtaining emission reductions from other sources, so that the net effect is "reasonable further progress" toward attainment of the air quality standards. This has been interpreted to require at least one-for-one offsets.

The new source review program also applies to "modifications" of major existing sources that increase emissions more than a de minimis amount (which has been defined by EPA as 40 tons per year in the case of VOCs and NO_x). However, EPA allows sources to escape new source review for modifications under a process called "netting." Netting is closely related to bubbling. It applies to facilities with multiple emission units. These facilities can avoid new source review that would otherwise be triggered by a modification at one emissions unit, if they obtain a compensating reduction in emissions from another unit. So long as the net change in emissions is below the de minimis threshhold, the source will have "netted out" of new source review.

B. Control Options

1. Increasing the Offset Ratio

One approach for linking air quality improvement with new source growth is to require greater than one-for-one offsets when new sources are located in nonattainment areas. This is already being done in several nonattainment areas around the country. The range of ratios that have been proposed for legislation vary from as low as 1.1:1 to as high as 5:1.

2. Lowering the Threshold for New Source Review

A second option for controlling emissions from new sources is to lower the threshold for new source review from its current level (100 tpy) to some lower level. This approach subjects an increasingly large number of sources to new source review and the more stringent new-source emission limitations.

Proposals for lowering new source review thresholds have varied the level of the threshold with the severity of the ozone pollution afflicting an area. For the levels with the most severe problems, levels as low as 2 tpy have been proposed for sources of VOC. Other proposed thresholds include 50 tpy, 25 tpy, 10 tpy, and 5 tpy.

3. Restricting Netting

When a modified source nets out of new source review, it avoids installing technology sufficient to achieve LAER. Yet it is often cheaper and more efficient to install top-notch pollution control equipment at the outset than it is to install such equipment during a later retrofit. In addition, when the new source review requirements include greater than one-for-one offsets, netting means that the emissions from the modified source end up being offset at a lower ratio than would be the case in the absence of netting.

These problems can be avoided by banning netting in nonattainment areas. This can be accomplished by adopting a "dual source" definition of a stationary source. Under this definition, both a facility comprising multiple individual emissions units and the emissions units themselves are considered to be "sources." As a result, because an individual emissions unit is itself a source for purposes of new source review, the larger facility cannot net an increase in emissions from an emissions unit against a decrease from elsewhere at the facility.

V. CONTROLLING VOC EMISSIONS FROM SOLVENTS AND COATINGS

The measures discussed above will go a long way toward reducing emissions from stationary sources. In the case of NO_x, in fact, they are a relatively complete set of measures—at least in the sense that they would reach all important NO_x sources. In the case of VOCs, however, they miss several important source categories.

The traditional tools of stationary source controls are designed to reach large industrial and commercial facilities. VOCs can be emitted from very small sources, however. For instance, household cleaners, hair sprays, and even underarm deodorants emit VOCs. So do small fix-it shops and the weekend housepainter. These sources would escape control even if all of the most stringent measures discussed above were adopted.

These very small sources of VOC emissions may account for as much as 10% of the VOC inventory. To reach them, new regulatory approaches are needed. One option is direct EPA regulation of the solvent content in consumer and commercial products responsible for VOC emissions. Under this approach, EPA would set standards reducing solvent contents according to a defined technological standard. One such standard might call for the lowest achievable emissions of ozone-forming compounds.

Economic incentives also hold promise as a means to reduce emissions from these small sources. An example of this kind of approach would be a system of fees on the purchase of consumer or commercial solvents that varies the rate of the fee with the contribution of the product to ozone formation.

[From the Clean Air Facts, May 3, 1989]

SMALL PARTICULATE MATTER (PM10)

The subject of this Fact Sheet is small particulate matter, which is commonly referred to as "PM10." Roughly 21.5 million people live in areas that do not meet the federal health standards for PM10.

WHAT IS PM10?

PM10 is a recently established EPA ambient air quality standard for very small particulate matter.

The original national ambient air quality standard for particulate matter was set in 1971. It was based on "total suspended particulates" (TSP)— in other words, any particles floating in the air. In 1987, EPA replaced the TSP standard with an ambient standard based on particles less than ten microns (millionths of a meter) in diameter. These tiny particles, called "PM10," have diameters less than one tenth the width of a human hair.

Unlike larger airborne particles, PM10 can pass through the natural filters in the nose, mouth, and throat, penetrate the upper airways, and travel deep into the lungs. It was for this reason that EPA concluded that PM10 levels better measured risks to human health than did TSP levels (which encompassed particles as large as 50 microns).

Many different substances can be components of PM10, including dust, dirt, soot, smoke, and "secondary particulates." The latter are formed by the transformation of pollutant gases such as sulfur dioxide, nitrogen oxides, or volatile organic compounds into airborne particulates.

HEALTH EFFECTS OF PM10

High levels of PM10 can produce an array of adverse health effects, ranging from temporary reductions in lung capacity, to aggravation of pre-existing respiratory diseases, to cancer and premature death.

Children are especially vulnerable to PM10 due to their high respiratory rates and small lungs. A recent study in Utah found that hospital admissions for children with respiratory disease (pneumonia, pleurisy, and bronchitis) were three times higher than normal during months in which the federal PM10 standards were exceeded. Other vulnerable populations include the elderly, asthmatics, and victims of respiratory disease.

Certain types of PM10 pose special health risks. One especially dangerous component of PM10 is the carbon-based particles that result from incomplete combustion in diesel engines. EPA has concluded that these particulates—which are emitted in the exhaust of diesel trucks, buses, and other vehicles—may cause as many as 860 cancer cases annually. Particulates from wood stoves have similar hazardous characteristics.

Sulfates and nitrates, also called acid aerosols, are another dangerous type of particulate. These are secondary particulates that form from emissions of sulfur dioxide and nitrogen oxides. Acid aerosols can sear sensitive lung tissues when inhaled. According to the Office of Technology Assessment, they could cause thousands of excess deaths each year.

Even small dust particles can be hazardous, because they build up in the lungs over time and impair breathing capacity.

ENVIRONMENTAL AND WELFARE EFFECTS

PM10 pollution—especially PM10 pollution less than 2.5 microns in diameter—impairs visibility. Along the East Coast, summer used to be the season of best visibility, but over the past 30 years it has become the season of worst visibility. EPA has linked this decline in visibility to PM10 pollution. The National Park Service has reported that particulate pollution, especially

fine sulfate particles, impairs scenic vistas within the national park system 90% of the time.

PM10 also soils materials and building surfaces. According to an EPA estimate, the damage is about $1 to $2 billion annually.

SOURCES OF PM10 POLLUTION

There are two basic sources of particulate pollution: natural sources and man-made sources. In turn, within the broad category of man-made sources, there are three major subsets of sources: fugitive emissions (e.g., dust and dirt), direct emissions (e.g., diesel particulates and wood smoke), and secondary particulates (e.g., sulfates and nitrates). The particulate pollution in any given area may come from one of these principal sources—or it may come from a combination of them—depending on the area's special circumstances.

The natural sources include wildfires, volcanoes, and windblown dust. According to EPA estimates, they generate roughly 80 million tons per year, (typ) of particulates, but much of this is particles too large to be counted as PM10. A significant portion of the natural particulate pollution is generated in isolated areas.

The man-made fugitive emissions come from sources such as roadway and construction dust. In the aggregate, fugitive emissions are an extremely large source of particulate pollution (perhaps 125 to 385 typ), but like the natural sources, a significant portion of these emissions is particles too large to be counted as PM10. Like natural sources, fugitive emissions are also frequently generated in isolated areas.

The man-made direct emissions embrace a variety of sources, including emissions from large stationary sources, such as power plants and factories; emissions from small stationary sources, such as wood stoves; and emissions from mobile sources, such as cars and trucks. The direct emissions of particulates amount to about 7 million tpy, with industrial processes (35%), fossil-fuel combustion (25%), and mobile sources (20%) being the largest contributors.

The final component of PM10 pollution, secondary particulates, come primarily from sulfur dioxide and nitrogen oxide emissions. Coal-fired electric utilities are the principal source of sulfur dioxide emissions, while electric utilities, industrial boilers, and mobile sources are the principal sources of nitrogen oxide emissions.

AREAS WITH PM10 POLLUTION PROBLEMS

There are two federal standards for PM10: a 24-hour standard of 150 micrograms per cubic meter (ug/m3) and an annual standard of 50 ug/m3. In 1987, when EPA adopted the PM10 standard, it estimated that at least 70 counties were likely to be in violation of these standards. There are 21.5 million people that reside in these "Group I" counties.

In 1987, EPA also identified an additional 110 counties, the "Group II" counties, that it said had over a 20% chance of being in violation of PM10 standards. Both the Group I and the Group II counties are listed in table 1.

TRENDS IN PARTICULATE LEVELS

There is no data showing trends in PM10 ambient concentrations, because PM10 is a newly developed standard. The data on trends in total suspended particulates shows that from 1978 to 1987, TSP levels dropped by 21%. Most of this reduction was in the early part of the decade, however, Since 1983, TSP levels have been basically flat, dropping only 1%.

CONTROL OPTIONS

There are an array of control options that could be used to reduce particulate levels below the 1983 plateau, depending on the source of the PM10 emissions.

Fugitive emissions, for example, can be reduced through measures such as paving roads or requiring dust-control plans at construction sites. A simple measure such as covering dump trucks hauling dirt or other materials can help reduce PM10 emissions.

Emissions from mobile sources can be reduced by tightening tailpipe standards, especially for heavy-duty diesel vehicles. In fact, EPA has already adopted regulations that require heavy-duty diesel buses and trucks to lower particulate emissions to 0.10 grams per brake-horsepower-hour (g/bhp-hr) by 1991 and 1994 respectively. The current standard is 0.60 g/bhp-hr.

In the case of direct emissions from stationary sources, many of the general control options discussed in Issue 7 could be adopted to reduce PM10 emissions. EPA has promulgated regulations limiting the emissions from new wood stoves. In places where further restrictions on stoves and fireplaces are needed, such as the Northwest, areas can ban wood-burning during episodes of high PM10 levels, or they can require that dry, less-polluting wood be burned. Emissions from open burning can be prevented from contributing to high PM10 levels by limiting open burning to favorable meteorological conditions.

There are also an array of controls for reducing secondary particulates such as sulfates and nitrates by controlling their precursor emissions. These measures include scrubbers, low-NO_x burners, tighter tailpipe standards, and fuel-switching, among others. As the measures are the same ones that control acid rain, they will be discussed in detail in a later issue on that problem.

TABLE 1.—PRELIMINARY LIST OF GROUP I AND II AREAS FOR PM10 [10]

State and county	Urbanized area	Group
Alabama:		
Jefferson	County	II
Alaska:		
Anchorage	Anchorage	I
Juneau	Juneau	I
Fairbanks	Fairbanks	II
Arizona:		
Cochise	Paul Spur/Douglas area	I
Pinal	Hayden/Miami area and Phoenix planning area.	I
Gila	Hayden/Miami area	I
Maricopa	Phoenix planning area	I
Yuma	Yuma planning area	I
Pina	Rillito planning area	I
Coconino	Flagstaff planning area	II
Graham	Stafford planning area	II
Navajo	Show Low and Joseph City planning area.	II
Apacha	Show Low Planning area	II
Santa Cruz	Nogales planning area	II
Pima	Ajo and Tucson planning areas	II
Cochise	Tucson planning area	II
California:		
Santa Clara	County	II
San Joaquin	do	II
Stanislaus	do	II
Kern	Southeast Desert Air Basin	II
Los Angeles	do	II
Inyo	Owens Valley planning area and Searles Valley planning area.	I
Mono	Mammoth Lakes planning area	I
Fresno	San Joaquin Valley	I
Kern	San Joaquin Valley and Searles Valley planning area.	I
Kings	San Joaquin Valley	I
Tulare	do	I
Los Angeles	LA metropolitan area	I
Orange	do	I
Riverside	South Coast Air Basin, and Coachella Valley.	I
San Bernardino	South Coast Air Basin and Searles Valley planning area.	I
Imperial	Imperial Valley planning area and Yuma planning area.	I

TABLE 1.—PRELIMINARY LIST OF GROUP I AND II AREAS FOR PM10 [10]—Continued

State and county	Urbanized area	Group
Colorado:		
Archuleta	Pogosa Springs	I
Adams	Denver metropolitan area	I
Denver	do	I
Arapahoe	do	I
Jefferson	do	I
San Miguel	Telluride	I
Prowers	Lamar	I
Pitkin	Aspen	I
Fremont	Canyon City	I
Adams	Brighton	II
Boulder	Longmont	II
Delta	Delta	II
Eagle	Vail	II
El Paso	Colorado Springs	II
Garfield	Glenwood Springs, Rifle	II
Gunnison	Crested Butte	II
Poutt	Steamboat Springs	II
Mesa	Grand Junction, Fruita	II
Weld	Greeley	II
Guam: Piti	County	II
Idaho:		
Caribou	Corda	II
Ada	Boise	I
Shoshone	Finehurst	I
Bonner	Sandpoint	I
Banrock	Pocatello	I
Power	do	I
Illinois:		
Madison	Granite City Township (twp)	I
Cook	McCook and Hyde Park twp	I
LaSalle	Oglesby	I
Randolph	County	II
Indiana:		
Marion	Subpart of county	II
Vigo	County	II
Lake	East Chicago, Gary, Hamond, and Whiting.	I
Porter	Subpart of county	I
Iowa:		
Cerro Gordo	Mason City	II
Linn	Cedar Papids	II
Polk	Des Moines	II
Kansas: Wyardotte	Kansas City	II
Maine: Aroostook	County	I
Maryland: Baltimore	do	II
Michigan:		
Wayne	Detroit	I
Wayne	Suburban area	II
Saginaw	Carrollton	II
Minnesota:		
Ramsey	Subpart of St. Paul	I
Ramsey	Remainder of St. Paul	II
Hennepin	Minneapolis	II
St. Louis	Duluth and Iron Range	II
Itaska	Iron Range	II
Lake	Rwo Harbors twp	II
Stearns	St. Cloud twp	II
Montana:		
Flathead	Kalispell	I
Lincoln	Libby	I
Lake	Ronan, Polson	II
Missoula	Missoula	I
Rosebud	Lame Deer	I
Silver Bow	Butte	I
Blaine	Hays	II
Flathead	Columbia Falls	II
Deer Lodge	Anaconda	II
Lewis & Clark	Helena	II
Sanders	Thompson Falls	II
Lincoln	Eureka	II
Nebraska:		
Case	Weeping Water	II
Douglas	Omaha	II
Nevada:		
Washoe	Reno planning area	I
Storey	do	I
Clark	Las Vegas planning area	I
Lander	Battle Mountain Area	II
Humbolt	do	II
Pershing	do	II
Elko	do	II
Eureka	do	II
New Mexico:		
Dona Ana	County	I
Bernalillo	do	II
Cibola	do	II
Grant	do	II
Santa Fe	do	II
San Miguel	do	II
Sandoval	do	II
Taos	do	II
Torrance	do	II
Otero	do	II
New York: Onondaga	Solvay	II
New Jersey:		
Hudson	Jersey City	II
Camden	Camden	II
Ohio:		
Cuyahoga	Subpart of county	I
Jefferson	do	I
Seneca	Thompson twp	II
Sandusky	Jackson twp	II
Lorain	County	II

TABLE 1.—PRELIMINARY LIST OF GROUP I AND II AREAS FOR PM10 [1]—Continued

State and county	Urbanized area	Group
Wyandot	Carey	II
Scioto	New Boston	II
Trumbull	Warren, Howland twp	II
Butler	Subpart of county	II
Oklahoma: Comanche	County	II
Oregon:		
Deschutes	Bend	II
Multnomah	Portland	II
Union	LaGrande	II
Jackson	Medford, White City	I
Josephine	Grant Pass	I
Lane	Oakridge	I
Klamath	Klamath Falls	I
Pennsylvania:		
Allegheny	County	II
Philadelphia	Philadelphia	II
Erie	County	II
Lawrence	....do	II
Mercer	....do	II
Puerto Rico: San Juan	San Juan	II
South Dakota:		
Pennington	Rapid City	II
Texas:		
Dallas	County	II
Harris	....do	II
Lubbock	....do	II
Nueces	....do	II
El Paso	....do	I
Utah:		
Salt Lake	Salt Lake metropolitan area and Magna	I
Utah	Provo	I
Virginia: Buchanan	County	II
Washington:		
Benton	Kennewick	II
King	Bellevue	II
King	Seattle metropolitan area	I
Pierce	Tocoma	I
Spokane	Spokane	I
Yakima	Yakima	I
Thurston	Lacey	I
Walla Walla	Wallula	I
West Virginia:		
Brooke	County	II [2]
Hanock	....do	II [2]
Wisconsin:		
Brown	DePere	II
Milwaukee	Subpart of county	II
Waukesha	....do	II
Douglas	....do	II
Dane	....do	II
Wyoming:		
Fremont	Larder	II
Sheridan	Sheridan	I

[1] This is a preliminary listing by EPA staff of areas with a high probability that they will not immediately attain the new PM10 standard (Group I), and insufficient data to determine whether or not they will immediately attain the standard (Group II). The remaining 3,000 counties in the United States are expected with a high degree of probability to immediately attain the standard.
[2] EPA is continuing discussions with West Virginia officials to clarify the grouping.

[From the Clean Air Facts, May 24, 1989]

ALTERNATIVE FUELS, PART I: CLEAN FUEL VEHICLES

Alternative or "clean" fuels are low-polluting alternatives to gasoline and diesel fuels. They hold tremendous potential for reducing not only ozone pollution, but also carbon monoxide pollution, particulate pollution, toxic air pollutants, and the greenhouse gases responsible for global warming.

This Fact Sheet surveys the pluses and minuses of the major clean fuels: methanol, ethanol, compressed natural gas, and liquid petroleum gas. Next week's Fact Sheet will evaluate "oxygenated fuels," which are clean fuel/gasoline blends designed to lower carbon monoxide levels.

I. METHANOL

Methanol is a liquid fuel produced from natural gas. In vehicles, it is usually used either in a mixture called "M85," which is 85% methanol and 15% gasoline, or as a "neat" fuel (100% methanol). In both cases, it offers significant environmental and performance advantages over gasoline or diesel fuels.

A. Environmental Benefits

Methanol is less photochemically reactive than gasoline. As a result, it contributes significantly less to ozone formation than gasoline. Current generation M85 vehicles emit roughly the same mass of evaporative and exhaust emissions of volatile organic compounds (VOCs) as do gasoline-powered vehicles. Due to the lower reactivity of the methanol emissions, however, the emissions have only 50% of the ozone-producing potential of the gasoline emissions.

The reduction in ozone formaton could be substantially greater in an optimized vehicle running on M100 (neat or 100% methanol). In such a vehicle, the ozone-production potential of the emissions would be 85% to 90% below that of current gasoline vehicles.

Methanol vehicles have other environmental benefits over gasoline and diesel vehicles. Nitrogen oxides (NOx) are the other principal precursor of ozone besides VOCs. When methanol is used instead of diesel fuel in heavy-duty vehicles, the NOx reductions can be as great as 50%. Methanol vehicles also essentially eliminate particulate emissions from diesel vehicles. And methanol vehicles emit no benzene (except for any benzene in the gasoline fraction of M85). Benezene is a carcinogen that is present in both the evaporative and exhaust emissions of gasoline-fueled vehicles.

Current-generation methanol vehicles do emit more formaldehyde than do gasoline vehicles. However, gasoline vehicles also emit hydrocarbons which are photochemically transformed in the atmosphere into formaldehyde. These emissions, when combined with the direct emissions of formaldehyde from gasoline vehicles, result in higher ambient formaldehyde levels than methanol vehicles produce. In addition, catalytic control is being developed to lower the formaldehyde emissions from methanol vehicles to levels comparable to gasoline vehicles.

B. Performance

Methanol has performance advantages over gasoline. It has a higher octane level and provides for faster acceleration than gasoline. As a result, it has been used as a fuel in the Indianapolis 500 since the 1970s.

Methanol is also a more energy-efficient fuel than gasoline, in the sense that less of its energy content is wasted than gasoline's. A disadvantage of methanol, however, is that it has a lower energy density, so a gallon of methanol will take a vehicle only about 50% to 60% as far as a gallon of gasoline. This is partially offset by the better energy efficiency of methanol; it can also be compensated for by increasing the size of the fuel tank, but this adds weight to the vehicle.

M100 vehicles do not start as well in cold weather as do gasoline vehicles (although heavy-duty M100 vehicles do start better in cold weather than do heavy-duty diesel vehicles). Cold-starting is not a problem with M85 vehicles, however.

C. Safety

In comparison with gasoline, methanol is a safer fuel in some respects and a more dangerous one in others. Methanol is less flammable than gasoline; however, it is more toxic than gasoline upon skin contact or ingestion, burns invisibly, and lacks any odor. The latter two disadvantages can be overcome by mixing methanol with gasoline, as in M85.

Research is in progress to develop additives other than gasoline to provide for flame luminosity and odor.

D. Experience with Methanol Vehicles

About one thousand methanol vehicles have operated in the world to date. Most of these have operated in California, where a fleet of 600 have logged over 20 million miles.

The first commercial production of methanol vehicles is likely to occur in 1991. At that time, a new EPA particulate standard for buses take effect. This standard (.01 grams per brake-horsepower-hour) can be met most effectively by the use of clean fuels.

E. Cost and Availability of Methanol Vehicles and Fuels

Methanol vehicles are similar to gasoline vehicles in design and construction. The principal difference between the vehicles is that methanol is more corrosive than gasoline, which means that certain parts (e.g., the fuel tank) must be made of a corrosion-resistant material, such as stainless steel or plastic. In fact, the similarites between the vehicles are so great that "flexible fuel vehicles" (FFVs) can be built that run on methanol, gasoline, or any mixture of the two. Such FFVs could run on methanol in a non-attainment area, but then use gasoline on trips away from the area when only gasoline is available.

A recent study by the California Energy Commission predicts that by 2000 the cost of a new methanol vehicle or FFV will be equal to the costs of a new gasoline vehicle, assuming high-volume assembly-line production. In the near term (1993), the costs of the methanol vehicle or FFV may be $100 to $500 greater than the costs of a gasoline vehicle, depending on the volume of production at that time.

Estimates of the cost of methanol as a fuel vary widely. The most recent study is the California Energy Commission report. It predicts that on an energy-equivalent basis, methanol will cost 13% less than premium gasoline by 2000 (as with the vehicles themselves, the report predicts higher costs for methanol fuel in the near term).

F. Methanol and Global Warming

The contribution of methanol to global warming is estimated to be 15% lower than gasoline's contribution when methanol is made from natural gas. Both methanol and gasoline can be made from coal, although it is uneconomic to do so at present. These processes substantially increase emissions of carbon dioxide, which is one of the "greenhouse gases" responsible for global warming. World natural gas supplies should be sufficient to satisfy methanol demands for half a century.

II. ETHANOL

Like methanol, ethanol is a liquid alcohol fuel. It is produced by the fermentation of grains, inlcuding corn, wheat, and barley. Most ethanol manufactured in the U.S. comes from corn.

Like methanol, ethanol can be burned neat or in a mixture with gasoline, such as an 85% ethanol, 15% gasoline mixture.

A. Environmental Benefits

The environmental benefits of ethanol as a fuel are similar to methanol. Like methanol, ethanol can lead to substantial reductions in ozone, particulate, nitrogen oxide, and benzene levels.

Use of ethanol as a fuel does not contribute to global warming. The carbon dioxide emissions from ethanol vehicles are offset by the carbon dioxide consumption of the crops from which ethanol is produced.

Like methanol, ethanol vehicles do emit more reactive aldehydes than gasoline vehicles (in this case, acid aldehyde not formaldehyde). However, as is the case with methanol, these emissions are offset by the lower

atmospheric reactivity of the hydrocarbon emissions from ethanol vehicles. In addition, they can be controlled by catalytic converters.

B. Performance

Ethanol has good performance characteristics similar to methanol. Moreover, its energy density is 35% higher than methanol (although still less than that of gasoline), so that a vehicle can go farther on a gallon of ethanol than on a gallon of methanol. Ethanol is less corrosive than methanol, easing maintenance problems.

C. Safety

Ethanol has desirable safety features. It is not as toxic as methanol. And unlike methanol, it burns with a visible flame.

D. Experience with Ethanol Vehicles

Few neat or near-neat ethanol vehicles have operated in the United States. However, Brazil has had extensive experience with ethanol vehicles. Since a national program in Brazil began in 1979, over 4 million ethanol cars and trucks have been placed in service, accounting for 50% of the miles driven. Over 90% of new vehicles in Brazil are ethanol vehicles.

E. Cost and Availability of Ethanol Vehicles and Fuel

As is the case with methanol, flexible fuel vehicles can be built that can run on ethanol, gasoline, or any mixture of the fuels. Such vehicles could also burn methanol or methanol-gasoline mixtures. The costs of manufacturing the FFVs or dedicated ethanol vehicles should be the same as the costs of manufacturing gasoline vehicles, assuming large-scale assembly-line production.

Estimates of the costs of ethanol fuel vary. The California Energy Commission predicts that ethanol will cost more than gasoline in 2000, but could become competitively priced by 2008. By contrast, the ethanol industry maintains that ethanol can be produced at a cost competitive to gasoline before 2000.

III. COMPRESSED NATURAL GAS

Natural gas can be processed into methanol, which is a liquid fuel. Alternatively, the gas can be compressed and burned in a gaseous form in vehicles. The resulting fuel—compressed natural gas (CNG)—has several desirable attributes.

A. Environmental Benefits

CNG is mostly methane. Methane is a relatively unreactive hydrocarbon, although it is an important greenhouse gas. As a result, the exhaust from CNG vehicles is much less likely to contribute to ozone formation than the exhaust from a gasoline vehicle. In addition, unlike gasoline or alcohol vehicles, CNG vehicles have no evaporative emissions, because the fuel system must be enclosed and pressurized. Overall, the use of CNG can reduce the ozone-forming potential of a vehicle by 90%.

CNG has other environmental benefits as well. It burns without soot, so it reduces emissions of particulate matter. It also reduces carbon monoxide emissions by 50% to 100% in comparsion with gasoline fuel. And like the alcohol fuels, it eliminates benzene emissions.

The data is inconclusive with respect to emissions of nitrogen oxides. EPA has reported that retrofitted vehicles burning natural gas may increase Nox emissions. However, this point is disputed by the natural gas industry, which contends that properly designed CNG vehicles can reduce NOx emissions by 65%. In any event, catalytic control could be added to a CNG vehicle to ensure that NOx emissions do not exceed the levels of gasoline vehicles.

With adequate control of methane emissions, CNG vehicles would have less global warming impact than gasoline vehicles.

B. Performance

The performance and driveability of CNG vehicles can be as good as gasoline vehicles. Because the energy density of CNG is low relative to liquid fuels, however, the range of a CNG vehicle is significantly reduced. In addition, CNG vehicles can be heavier than gasoline vehicles, because they require pressurized fuel tanks.

C. Safety

Natural gas is generally considered to be a safe fuel. It is nontoxic, burns with a visible flame, and has a high ignition temperature. Ignitable mixtures occurring in the fuel tank are unlikely, because the pressure of the fuel prevents air from entering the tank during refueling. The pressurized fuel storage cylinders on CNG vehicles have safely withstood crashes, fires, and gunfire.

D. Experience with CNG Vehicles

Vehicles using CNG have been available since the 1920s in the U.S. Currently, there are about 30,000 CNG vehicles operating nationally. Most CNG vehicles are dual-fueled vehicles that can run on either CNG or gasoline.

E. Cost and Availability of CNG Vehicles and Fuel

CNG vehicles are typically more expensive than gasoline vehicles because they need heavy fuel tanks. (In the case of dual-fueled CNG vehicles, a gasoline tank is also needed.) The additional costs range from $1,200 to $3,500.

Natural gas is cheaper than gasoline on an energy-equivalent basis. Unlike a liquid fuel, however, it poses special distribution and refueling challenges. The fuel cannot be refined at a remote facility and then trucked or shipped to market. Instead, natural gas must be piped to a local station and then compressed before refueling. Because of these concerns, CNG vehicles may be best suited for use in fleets of vehicles that can be centrally refueled.

The California Energy Commission has estimated that the combined effect of increased vehicle costs and increased fuel distribution costs will make CNG vehicles somewhat more expensive than gasoline vehicles to own and operate. The cost differential is lower for fleet vehicles than for vehicles owned by individuals.

IV. LIQUEFIED PETROLEUM GAS

Liquefied petroleum gas (LPG) is propane that has been liquefied under pressure. Most LPG comes from natural gas feedstocks (6% of natural gas is propane). Some LPG is a by-product of petroleum refining.

LPG resembles CNG in many ways. Like CNG, it burns cleanly and must be stored in pressurized tanks and dispensed from special pumps. LPG's performance is also similar to CNG's, except that because LPG is stored as a liquid, its energy density is higher. This means that LPG vehicles can have a range nearly as large as gasoline vehicles. Also like CNG, LPG vehicles can be built with dual-fuel capability.

LPG's safety is similar to CNG, except that unlike natural gas, propane is heavier than air. This means that the propane could accumulate in a low-lying area and create a fire hazard.

LPG vehicles and CNG vehicles emit similar levels of particulates, carbon monoxide, and nitrogen oxides. Like CNG vehicles, LPG vehicles do not emit toxic benzene.

One difference between CNG and LPG is that most of the hydrocarbon emissions from an LPG vehicle are propane (instead of methane). The reactivity of propane appears to be greater than methane, but somewhat less than gasoline hydrocarbons. This increased reactivity reduces the ozone benefit of LPG as an alternative fuel.

LPG vehicles have been used in many applications, including newspaper delivery fleets, local government fleets, and forklifts. Millions of LPG vehicles operate worldwide, including about 370,000 vehicles in the U.S.

LPG vehicles cost more than gasoline vehicles because they need special pressurized fuel tanks. Fuel prices, however, are substantially below gasoline on an energy-equivalent basis. On the other hand, the availability of LPG fuel is limited and tends to be seasonal.

According to the California Energy Commission, fleets of LPG vehicles will be cheaper to own and operate in both 1993 and 2000 than fleets of gasoline vehicles. At the same time, private LPG vehicles will be somewhat more expensive than gasoline vehicles to own and operate, because of the added costs of the fuel dispensing systems. The limited supply of LPG fuel may restrict LPG to a small segment of the fuel market.

V. ELECTRICITY

Electric, battery-powered vehicles have many desirable attributes. They emit no air pollutants, so from an air quality perspective, they are cleaner than other alternative fuels. (The power plant that generates the electricity that charges the batteries may have emissions, but the plant will typically be located outside of the nonattainment area.)

The vehicles also have excellent driveability and can start and operate easily in cold weather. The vehicles are ideal for stop-and-go driving because unlike gasoline vehicles at idle, they use no energy when stopped. Acceleration is limited in electric vehicles, however.

One problem with electric vehicles is the status of current-generation batteries. These batteries take a long time to charge; they do not carry enough power to give a vehicle a range beyond 120 miles; and they cannot drive vehicles at speeds greater than 65 mph. In addition, the batteries have a limited lifetime and can support vehicle accessories such as air conditioning only at the cost of reduced driving range.

Electric vehicles can be cost-competitive with gasoline vehicles for those applications that can accept the limited range and performance.

VI. HYDROGEN

Another potential alternative fuel is hydrogen. Hydrogen can be produced from natural gas, petroleum, coal, or water. Its primary advantage as an alternative fuel is that upon combustion, it reacts with oxygen to form water. As a result, a hydrogen-fueled vehicle would have essentially no hydrocarbon emissions.

There are several obstacles to use of hydrogen as an alternative fuel. Hydrogen is difficult to store onboard a vehicle. Unlike natural gas, hydrogen gas cannot be effective compressed for storage because its low energy density is too low (about one third of natural gas). The most promising alternative uses metal alloys that store hydrogen by chemical reaction. Research is underway to improve such storage systems. In addition, hydrogen is an expensive fuel, costing

about seven times the price of gasoline on an energy-equivalent basis.

It is unlikely that hydrogen-fueled vehicles will be a viable transportation option in the near term.

[From the Clean Air Facts, May 31, 1989]

ALTERNATIVE FUELS, PART II: OXYGENATED FUELS

"Oxygenated" fuels differ from neat or near-neat alternative fuels discussed in the last week's Fact Sheet in two basic regards. First, they are gasoline blends, not gasoline replacements. This means they can be burned in today's vehicles without design changes. Second, they are used primarily to combat carbon monoxide pollution, not ozone pollution.

There are several fuels that can be blended with gasoline to form oxygenated fuels, including ethanol, ETBE (an ethanol derivative), methanol, and MTBE (a methanol derivative). They are discussed below, following a discussion of the theory of oxygenated fuels.

HOW OXYGENATED FUELS WORK

Carbon monoxide tends to be a cold-weather pollutant. When started with a cold engine, fuel combustion in the typical gasoline vehicle is incomplete. This produces elevated levels of carbon monoxide in the exhaust emissions. The addition of oxygen into the fuel mixture "leans out" the air/fuel ratio and increases combustion efficiency. As a result, carbon monoxide emissions drop.

The carbon monoxide benefit from oxygenated fuels depends on two primary factors. The first is the percent oxygen in the fuel. EPA has found that emissions reductions rise linearly as oxygen content in the fuel increases from 0% to 3.7%, the highest oxygen content used in oxygenated fuels.

The other important factor is the fuel system of the vehicle. Oxygenated fuels can reduce carbon monoxide emissions from vehicles with carburetors by up to 33%. In the case of vehicles with fuel-injection systems, the benefits are in the range of 5% to 20% reductions. Fuel-injection cars first became widely available in 1982. They were not optimized for performance at high altitudes, where carbon monoxide problems often occur, until 1984, however.

Oxygenated fuel programs have been adopted in Denver, Albuquerque, Phoenix, and other cities with carbon monoxide pollution. These programs typcially require the use of oxygenated fuels during the winter months, when carbon monoxide levels are highest. The Denver program is the oldest and has reduced carbon monoxide emissions by 12% by requiring a minimum oxygen content of 2% (Denver is now considering raising its minimum oxygen content). Albuquerque requires a minimum oxygen content of 3.1%, but gives vendors "oxygen credits" that they can use to offset sales of low-oxygen fuels when they sell fuels with oxygen contents greater than 3.1%.

"GASOHOL"

"Gasohol"—gasoline blended with 10% ethanol—is the most common ethanol blend. Gasohol is most often produced by adding ethanol to refined gasoline in a process called "splash blending." Currently about 1% of the gasoline fuel sold in the U.S. is gasohol.

Gasohol has an oxygen content of 3.7%. This is the highest of any oxygenated fuel and consequently produces the greatest reductions in carbon monoxide emissions of any oxygenated fuel.

Gasohol receives favorable federal tax treatment. The federal gasoline tax of $0.09 per gallon is reduced to $0.03 per gallon for gasohol. Many states provide similar relief from state taxes for gasohol.

ETBE

ETBE (ethyl tertiary butyl ether) is an ethanol derivative that could be added to gasoline during the refining process. A blend with ETBE would not raise the oxygen content of gasoline as much as ethanol. The highest oxygen content achievable with ETBE appears to be near 2.7%. However, ETBE blends may offer advantages in reducing ozone levels, as is discussed below.

ETBE has yet to receive EPA approval as a gasoline additive.

MTBE

MTBE (methyl tertiary butyl ether) is a methanol derivative that is added to gasoline during the refining process. It is currently the most widely used oxygenated blend.

When blended at an 11% rate, MTBE raises the oxygen content of gasoline to 2%. A 15% MTBE blend—the highest currently permitted by EPA—raises the oxygen content in gasoline to 2.7%. Because MTBE's oxygen content is lower than ethanol's, it is not as effective in blends in reducing carbon monoxide levels.

METHANOL BLENDS

Another potential oxygenated blend is a methanol/gasoline blend. Like ethanol, methanol can be splash blended with gasoline. When blended at a 10% rate, methanol raises the oxygen content of the gasoline by 3.5%.

Methanol was formerly used as a blend by ARCO in a fuel called Oxinol, but ARCO discontinued manufacturing Oxinol in 1986.

OXYGENATED FUELS AND OTHER AIR POLLUTANTS

When oxygenated fuels are used during the winter months to lower carbon monoxide levels, they have little effect on ozone levels. Unlike carbon monoxide, ozone is primarily a summertime pollutant. Research is underway, however to determine whether using oxygenated fuels during the summer could also help lower ozone levels.

In the case of ethanol and methanol, splash blending raises the volatility of the fuel mixture by roughly 1 psi and so increases evaporative hydrocarbon emissions. In addition, these oxygenated fuels appear to increase nitrogen oxide emissions. On the other hand, the exhaust emissions of hydrocarbons from ethanol and methanol blends are less reactive than gasoline exhaust emissions, so this offsets the increased evaporative emissions to some extent. There is some evidence that the overall effect is a net reduction in ozone levels.

Like blends of ethanol and methanol, blends with MTBE and ETBE also appear to increase nitrogen oxide emissions. However, as with ethanol and methanol blends, the reactivity of the exhaust emissions from vehicles using MTBE and ETBE blends is lower than the reactivity of the emissions from vehicles using unblended gasoline. Moreover, MTBE and ETBE do not increase fuel volatility, so they will not raise evaporative hydrocarbon emissions.

All the oxygenated blends have high octane levels. This raises the possibility that they could be substituted in gasoline for the aromatic hydrocarbons—benzene, toluene, and xylene. Such a substitution could have significant environmental benefits in lowering both ozone levels (when the oxygenates replace the highly reactive xylene) and the levels of toxic air pollutants (when the oxygenates replace benzene and toluene).

[From the Clean Air Facts, June 16, 1989]

CLEAN AIR QUIZ

1. The health standards for ___ and ___ are currently exceeded in most urban areas:

A. Lead and ozone.
B. Ozone and carbon monoxide.
C. Nitrogen oxide and sulfur dioxide.
D. Sulfur dioxide and carbon monoxide.

2. Nearly ___ Americans live in nonattaintment areas, which are those areas not meeting one or more of the Clean Air Act's health-based standards.

A. 20 million.
B. 50 million.
C. 90 million.
D. 150 million.

3. Ozone pollution is caused primarily by:

A. The release of chlorofluorocarbons (CFCs) into the upper atmosphere.
B. The release of nitrogen oxides and hydrocarbons in the presence of sunlight.
C. Both of the above.

4. Ozone pollution poses a health risk because it reacts with sensitive lung tissues, irritating and inflaming the lungs. The potential health consequences of this include:

A. Chest pains, shortness of breath, and increased susceptibility to respiratory infections.
B. Coughing, nausea, and throat irritation.
C. Scarred lung tissue, which could lead to cancer or emphysema.
D. All of the above.

5. Studies indicate that ozone pollution inflicts extensive damage on vegetation, decreasing tomato yields by 33%, beans, by 26%, soybeans by 20%, and wheat by 30%. What is the estimated annual dollar loss by this damage?

A. $1 million to $5 million.
B. $50 million to $100 million.
C. $500 million to $1 billion.
D. $2 billion to $3 billion.

6. True or False: Carbon monoxide pollution can be especially hazardous to fetuses because it reduces the amount of oxygen available through the mother's blood stream.

7. Cars and trucks (mobile sources) cause ___% of carbon monoxide pollution in most urban areas:

A. 20–30%.
B. 40–50%.
C. 60–70%.
D. 80–90%.

8. Congress set the No_x tailpipe standard for cars at .4 gram per mile (gpm) in 1970. This standard was subsequently relaxed to 1.0 gpm. On average, however, 1988 cars were certified as emitting approximately:

A. 0.47 gpm of No_x.
B. 0.7 gpm of No_x.
C. 1.0 gpm of No_x.
D. 1.3 gpm of No_x.

9. Under the existing law new cars must meet emission standards for 5 years or 50,000 miles. According to EPA, extending this standard to 10 years or 100,000 miles would obtain:

A. Few reductions but would be more cost effective than many stationary source controls.

B. Significant reductions but would not be as cost effective as many stationary source controls.

C. Few reductions that would not be as cost effective as many stationary source controls.

D. Significant reductions that would be more cost effective than many stationary source control measures.

10. Match these alternative fuels to the appropriate description:

A. Methanol:

B. Ethanol:

C. Gasohol:

D. Liquefied Petroleum Gas:

1. propane that has been liquefied under pressure.

2. a liquid fuel produced from natural gas.

3. a liquid alcohol fuel produced by the fermentation of grains.

4. gasoline blended with 10% ethanol.

11. PM10 is a recently established EPA ambient air quality standard for very small particulate matter. Which of the following is true?

A. PM10 refers to particles that are less than 10 microns (millionths of a meter) in diameter (one-tenth the width of a human hair).

B. Because PM10 is so small, it penetrates deep into the lungs, thus posing more of a danger than larger particles.

C. Children are especially vulnerable to PM10 due to their high respiratory rates and small lungs.

D. All of the above.

12. Which of the following characteristics apply to PM10?

A. Created by natural sources such as wildfires, volcanoes, and windblown dust.

B. Results from incomplete combustion in diesel engines.

C. Created by wood stoves, construction sites and dirt roads.

D. Emitted as acid aerosols from coal-fired electric utilities.

E. A and C.

F. All of the above.

13. Under the Clean Air Act, all existing sources must install a minimum level of technological control (RACT) in nonattainment areas. In addition, existing sources that increase emissions more than a de minimus amount are subject to new source review requirements. These requirements can be avoided, however, through emissions trading provisions known as "bubbling" and "netting." Which of the following is true:

A. Netting applies to modifications of existing sources and allows emissions trading only within a source. Bubbling applies to RACT on existing sources and can apply to both trading within sources and between different sources.

B. The reverse of the above so that, netting applies to RACT on existing sources and can apply to both trading within sources and between different sources. Bubbling applies to modifications of existing sources and allows emissions trading only within a source.

C. Bubbling and netting are poorly understood and no one is really sure what the difference between them is.

14. CTGs are an acronym for:

A. Catalytic Tertiary Generation, which is the latest advancement in the catalytic converter used in most vehicles.

B. Control Technique Guidelines, which are documents issued by EPA to assist state and local pollution control authorities to achieve standards for certain sources, such as solvent metal cleanings, through RACT.

C. Comprehensive Technological Grids, which are innovative technological traffic systems designed to ease vehicle congestion in major cities.

D. None of the above.

15. Although 1989 vehicles emit significantly fewer emissions than cars produced in 1970, the progress in cleaning the air has been less than expected. The reason for this is:

A. The Act's health based standards were tightened in 1980, thus making it more difficult to meet the standards.

B. A record increase in the number of cars on the road and the amount of vehicle miles travelled (VMT) has offset the gains from cleaner tailpipes.

C. The depletion of the ozone layer has increased pollution levels.

C. None of the above.

ANSWERS: 1. B; 2. D; 3. B; 4. D; 5. D; 6. T; 7. D; 8. A; 9. D; 10. A2, B3, C4, D1; 11. D; 12. F; 13. A; 14. B; 15. B.

[From the Clean Air Facts, June 29, 1989]

TOXIC EMISSIONS: INDUSTRIAL SOURCES

Toxic air pollutants are air pollutants that can cause serious illness or death. In theory, they are supposed to be stringently controlled under the Clean Air Act. To date, however, only seven of the hundreds of toxic air pollutants emitted by industry have been regulated by EPA.

EPA estimates that emissions of toxic air pollutants cause some 1,600 to 3,000 cancer cases a year, as well as creating cancer risks in some cities as high as 1 in 1,000. Toxic emissions can also cause birth defects, neurological injury, and genetic mutations.

This Fact Sheet is the first in a series on the problem of toxic air pollution. It focuses on emissions from major industrial sources. Later issues will discuss toxic emissions from motor vehicles and small "area" sources, as well as the problem of "accidental releases," like the catastrophic accident at Bhopal, India, that killed more than 3,000 and injured more than 200,000 in 1984.

I. "HAZARDOUS AIR POLLUTANTS" VERSUS "CRITERIA AIR POLLUTANTS"

The Clean Air Act distinguishes between two categories of pollutants: hazardous air pollutants and criteria or conventional air pollutants. Criteria air pollutants are defined as pollutants that "endanger public health or welfare" and "result from numerous or diverse mobile or stationary sources." These pollutants tend to be more prevasive, but less potent, than hazardous air pollutants. Examples include ozone, carbon monoxide, and PM10—all of which have been discussed in earlier Fact Sheets. The Act requires EPA to set national ambient air quality standards for these pollutants, which the states have responsibility for achieving through implementation plans.

By contrast, hazardous air pollutants (also called "toxic air pollutants" or "air toxics") are pollutants that pose especially serious health risks. In the words of the Act, they are pollutants that "cause or contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness." The Act requires EPA to establish national emission standards within six months for each pollutant that the agency lists as a hazardous air pollutant.

II. SOURCES OF TOXIC EMISSIONS

Toxic air pollutants come from three basic types of sources: large industrial facilities, motor vehicles, and small "area" sources (such as electroplating operations or solvent use).

In the case of industrial facilities, data collected by EPA under the right-to-know provisions of the Superfund law show that manufacturing plants emitted 2.7 billion pounds of over 275 toxic substances into the atmosphere in 1987. Sixty of the substances were known or suspected carcinogens, with total emissions amounting to over 200 million pounds.

The chemical industry is the largest single source of industrial emissions of air toxics, emitting some 35% of the total. Other significant industrial sources are the primary metal industry (9%), the paper industry (9%), motor vehicle manufacturers (8%), and the rubber and plastics industry (5%). In total, more than 15,000 facilities reported emitting toxic chemicals into the air in 1987.

Industry in Texas emitted 240 million pounds of toxic chemicals in 1987, more than any other state. Other states with aggregate emissions over 100 million pounds were Ohio, Louisiana, Tennessee, Virginia, Michigan, and Indiana. table 1 presents a state-by-state breakdown of industrial emissions of toxic substances in 1987.

The toxic emissions reported by industry fall into five general categories: organic—carbon-containing—chemicals, such as benzene and 1,3-butadiene (58% of total emissions); halogenated organic chemicals, such as perchloroethylene, which are organic chemicals containing one or more halogens (fluorine, chlorine, bromine, or iodine) (27%); nonmetallic inorganic chemicals, such as ammonia and chlorine (7%); metals, such as mercury and chromium (5%); and acids, such as hydrochloric acid, bases, and salts (2%).

III. HEALTH AND ENVIRONMENTAL EFFECTS FROM TOXIC EMISSIONS

A. Cancer risks from Toxic Emissions

In an average urban area, EPA estimates that a resident's chance of contracting cancer as a result of inhaling toxic emissions over the course of a normal 70-year life is greater than 1 in 10,000. In some areas, the average risk is as high as 1 in 1,000. These are exceptionally high levels of risk. By comparison, in the hazardous waste context, EPA often regulates to protect the public from cancer risks of 1 in 1,000,000 or lower.

EPA estimates that some 1,600 to 3,000 cancer cases are caused by toxic emissions each year. On a national basis, emissions from cars and trucks account for roughly 50% of the cases. The remaining cases are caused by emissions from industrial sources (25%) or diverse "area" sources, such as small electroplating operations, woodsmoke, or solvents used for degreasing (25%). In cities with a high-level of industrial activity, however, the relative risk contributions can vary significantly from the national average. In Southeast Chicago, for example, industrial sources cause 50% of the cancer risk due to the area's high level of toxic emissions from steel mills.

The greatest cancer risks to individuals are found near major industrial sources of toxic emissions. A study by Tulane University reported that the lung cancer rate for residents living within a mile of major chemical plants is four times the national average. A similar study by the West Virginia Department of Health found cancer rates twice the national average in neighborhoods near chemical plants.

EPA has made preliminary estimates of the cancer risks created by individual plants. Although these estimates were made for the purpose of comparing relative risks (not determining precise facility-specific risks), they represent the best data available for assessing the magnitude of risks posed by industrial facilities. The estimates found 205 plants that created lifetime cancer risks to the most exposed individual greater than

1 in 1000, including 45 plants associated with cancer risks greater than 1 in 100, and one plant associated with a cancer risk greater than 1 in 10. In each case, the analyses assumed a 70-year exposure to the maximum long-term ambient concentration of the air toxic likely to be caused by the plant.

The EPA estimates evaluated the risks caused by emissions of a single toxic air pollutant from each plant. But many facilities routinely emit numerous toxic pollutants. The agency's risk assessments did not consider the combined or synergistic effects of exposure to multiple toxics, or the effect of exposure through indirect pathways (such as eating vegetables on which toxics have been deposited). The analyses also did not evaluate the cancer risks created by industrial sources of some important carcinogenic emissions, including benzene and coke-oven emissions.

B. Other Serious Illnesses from Toxic Emissions

Toxic emissions can cause an array of serious illnesses besides cancer. These include birth defects, damage to the brain or other parts of the nervous system, reproductive disorders, and genetic mutations. In the case of emissions of some neurotoxins, even small doses can be lethal.

There have been no quantitiative assessments of the noncancer risks created by toxic emissions. In 1987, however, EPA ranked qualitatively the noncancer risks created by over 30 environmental problems within the agency's jurisdiction. Toxic emissions ranked as the second greatest threat to human health, exceeded only by the health risks attributable to ozone and other "criteria" pollutants such as carbon monoxide and PM10.

In Louisiana, high rates of miscarriage have been detected in communities near chemical plants. Studies are underway to assess the relationship between the miscarriages and the plants' emissions.

C. Environmental Effects of Toxic Emissions

Toxic emissions can cause adverse impacts to the environment as well as human health. The Great Lakes in particular have been adversely affected, because their huge surface area acts as a sink for the deposition of toxics from hundreds of miles away. This problem was discovered when researchers found significant levels of airborne PCFs and pesticides on remote Isle Royale National Park, a wilderness island in the middle of Lake Superior.

* * * * *

On the other hand, some EPA actions under the Clean Air Act have unintentionally boosted toxic emissions. The phase-out of leaded gasoline reduced gasoline octane levels. To compensate for this effect, refiners increased benzene, toluene, and xylene levels in gasoline—all of which have high octane levels, but are also toxic substances.

B. State and Local Regulatory Efforts

In the absence of federal regulations, state and local agencies have had the principal responsibility for regulating toxic emissions. This has produced a patchwork of differing standards. Forty-five states have some kind of program for regulating toxic emissions from new industrial sources. In most cases, the state and local programs for new sources are "policy" programs that authorize the permitting agencies to consider and regulate toxic emissions, but do not specify required emission standards.

Only 18 states have programs of any kind for the regulations of toxic emissions from existing sources.

V. NEW STRATEGIES FOR CONTROLLING TOXIC EMISSIONS FROM INDUSTRIAL SOURCES

There are many proven technologies for significantly reducing toxic emissions. Measures as simple as installing flares over emission vents, for example, can reduce emissions of flammable toxic substances such as 1,3-butadiene and ethylene oxide by 98%. Another example of a simple control device is fabric filters, which can reduce emissions of metals and other toxic particulates by 99%. Under existing law, however, use of these technologices to control toxic emissions is generally voluntary.

Most legislative proposals for controlling toxic emissions have sought to require use of such available technology to control toxic emissions. They require EPA to set standards based on available technology for categories of major industrial sources of air toxics, following the model of the Clean Water Act. As a second stage, they require EPA to analyze the "residual risk" remaining after installation of technological controls and to take further action as needed to protect the public health.

The proposals differ in critical details, however. For instance, the Leland/Molinari bill, H.R. 2585, would require EPA to regulate all categories of major industrial sources of toxic emissions, while the Dingell bill, H.R. 4, and the Administration's legislative proposal would require regulation of only 50% of such categories. Another central difference in the proposals is their approach to health protection after regulated sources comply with the technology-based standards. The Leland/Molinari bill sets objective standards for determining when an unacceptably high level of residual risk remains (in the case of carcinogens and other "nonthreshold" pollutants, the standard is whether the residual risks are greater than 1 in 1,000,000). By contrast, the Dingell bill and the Administration proposal leave the decision about the need for residual risk regulation to EPA discretion. The bill introduced by 12 members of the Senate Environment Committee (S. 816) generally follows the approach of H.R. 2585.

TABLE 1.—TOXIC AIR EMISSIONS REPORTED IN THE 1987 TOXIC RELEASE INVENTORY

Total tri air emissions rank, and State	Tri facilties reporting air emissions number	Tri forms reporting air emissions number	Total air	
			Pounds	Percent
9 Alabama	288	1,111	98,339,784	3.70
29 Alaska	7	40	31,707,083	1.19
53 American Samoa	2	2	56,250	.00
35 Arizona	118	342	16,565,691	.62
18 Arkansas	234	689	54,559,906	2.05
14 California	1,288	3,863	82,708,429	3.11
40 Colorado	144	386	11,010,395	.41
31 Connecticut	318	972	26,078,031	.98
41 Delaware	48	177	6,036,385	.23
21 Florida	326	825	50,196,070	1.89
11 Georgia	470	1,412	93,586,285	3.52
50 Hawaii	13	49	1,064,495	.04
44 Idaho	35	94	4,176,707	.16
8 Illinois	963	3,032	99,226,761	3.74
7 Indiana	566	1,925	112,870,299	4.25
26 Iowa	219	647	39,238,921	1.48
32 Kansas	150	501	24,738,143	.93
19 Kentucky	251	1,050	51,666,181	1.95
3 Louisiana	209	1,287	138,254,193	5.21
36 Maine	66	230	14,607,382	.55
34 Maryland	143	496	20,234,753	.76
30 Massachusetts	467	1,297	30,061,360	1.13
6 Michigan	588	2,250	116,359,932	4.38
23 Minnesota	224	732	42,095,160	1.59
17 Mississippi	203	615	57,285,976	2.16
20 Missouri	403	1,366	50,623,710	1.91
43 Montana	24	113	5,255,856	.20
37 Nebraska	111	284	14,403,622	.54
52 Nevada	26	55	742,389	.03
38 New Hampshire	96	275	12,983,935	.49
24 New Jersey	683	2,301	41,983,116	1.58
45 New Mexico	28	92	3,831,726	.14
12 New York	623	1,992	89,399,757	3.37
10 North Carolina	650	2,026	94,568,576	3.56
51 North Dakota	24	54	935,275	.04
2 Ohio	1,011	3,625	172,685,650	6.50
27 Oklahoma	165	480	36,445,117	1.37
33 Oregon	157	469	20,941,392	.79
13 Pennsylvania	810	2,773	87,547,598	3.30
39 Puerto Rico	128	387	12,867,913	.48
42 Rhode Island	126	296	5,927,841	.22
16 South Carolina	315	1,119	64,215,277	2.42
47 South Dakota	27	50	2,441,359	.09
4 Tennessee	413	1,256	135,010,665	5.08
1 Texas	823	3,890	238,817,765	8.99
15 Utah	81	284	77,327,036	2.91
49 Vermont	39	112	1,379,661	.05
48 Virgin Islands	1	18	2,033,873	.08
5 Virginia	327	1,055	132,436,076	4.99
25 Washington	243	727	40,637,496	1.53
28 West Virginia	91	527	35,564,455	1.34
22 Wisconsin	507	1,553	48,656,361	1.83
46 Wyoming	17	78	3,154,641	.12
Total	15,289	51,281	2,655,542,710	100.00

Source: U.S. Environmental Protection Agency Toxics Release Inventory, June, 1989.

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[From the Clean Air Facts, July 12, 1989]

TOXIC EMISSIONS: MOBILE AND AREA SOURCES

Last week's Fact Sheet focused on toxic emissions from major industrial facilities, such as chemical plants and oil refineries. These facilities produce the highest cancer risks of exposed individuals, as well as contribute significantly to aggregate nationwide risks from toxic emissions. This week's Fact Sheet examines the problems caused by two other important sources of toxic emissions—mobile sources, such as cars and trucks, and small "area" sources.

Although often overlooked in the toxics debate, mobile sources are the largest single source of toxic emissions. According to EPA, cars and trucks are responsible for roughly 50% of the cancers attributable to toxic emissions in the U.S. "Area" sources—which are small, disparate sources such as electroplating shops, apartment-building cooling towers, and solvent use—are nearly as important, but are also often neglected. Collectively, area sources cause roughly 25% of the cancers attributable to toxic emissions, according to EPA.

I. TOXIC EMISSIONS FROM MOBILE SOURCES

Cars and trucks emit hundreds of compounds, including many which are known to be toxic. These emissions are estimated to be responsible for 800 to 1,500 cancer cases each year.

A. Types of Toxic Emissions from Mobile Sources

There are four principal toxic emissions from motor vehicles: diesel and gasoline particulates, 1,3-butadiene, benzene, and formaldehyde.

Diesel particulates form from incomplete combustion of diesel fuel. The particulates have a carbon core onto which carcinogenic bits of fuel, lubricants, and combustion products are absorbed. The particles' small diameters (90% are less than 1 micron) mean that they can be inhaled and deposit-

ed deep within the lungs. According to EPA, diesel particulates may cause as many as 50% of the cancer cases attributable to mobile source emissions.

Although gasoline vehicles emit far less particulate matter than diesel vehicles on a grams per mile basis (30 to 100 times less), in the aggregate they may pose toxicity problems similar to diesel particulates. EPA estimates that gasoline particulates may cause as many as 10% of the cancer cases attributable to mobile source emissions.

Next to emissions of diesel particulates, emissions of 1,3-butadiene from mobile sources cause the greatest aggregate health threat, according to EPA's analysis. Butadiene is one of the most potent organic carcinogens. It is emitted both in the exhaust of gasoline vehicles (butadiene is roughly 0.5% of the hydrocarbon content of the exhaust) and from tire wear. EPA attributes as many as 15% of the mobile source cancer causes to butadiene emissions. Studies by the California Air Resources Board (CARB) find that butadiene could be even more hazardous.

Motor vehicles are the major sources of benzene emissions nationally, emitting 85% of the national inventory. These emissions come from vehicle exhaust (70% of the national inventory), gasoline evaporation (14%), and refueling (1%). The benzene level of gasoline is about 1% to 2% and the benzene level in the exhaust of gasoline cars is about 2% to 5% of the hydrocarbon emissions. Most benzene in motor vehicle exhaust forms from engine combustion of nonbenzene aromatics in gasoline, not from the incomplete combustion of benzene itself. Diesel vehicles contribute 3% of the total benzene emitted from motor vehicles.

Benzene emissions from vehicles cause leukemia and other forms of cancer—up to 10% of the motor vehicle cancer cases each year, according to EPA. CARB attributes a substantially higher cancer incidence to benzene emissions.

Formaldehyde is directly emitted in the exhaust of both gasoline and diesel vehicles. It also forms in the atmosphere as a result of photochemical reactions involving other motor vehicle exhaust or evaporative emissions. Direct formaldehyde emissions from motor vehicles amount to approximately 35% of the national inventory, although in some regions the motor vehicle contribution can be much greater (60% in California, for example).

Formaldehyde emissions can cause cancer, as well as acute adverse health effects, including eye, nose, and skin irritation, headaches, nausea, and in extreme cases, death. According to EPA data, formaldehyde emissions from motor vehicles account for up to 5% of the cancer cases attributable to mobile sources.

Motor vehicles also emit a host of other toxic substances, including acetaldehyde, asbestos, cadmium, and ethylene dibromide. Collectively, these other toxic emissions may account for 5% of motor vehicle cancers, according to the EPA data.

B. Regulatory Action to Control Toxic Emissions from Mobile Sources

In general, EPA has not regulated the emission of toxic substances by motor vehicles directly. Some control has occurred as an incidental result of efforts to bring areas into compliance with national ambient air quality standards. For instance, benzene, butadiene, and formaldehyde are types of hydrocarbons. As a result, they are controlled at least in part by tailpipe standards limiting exhaust emissions of hydrocarbons.

In some instances, however, controls on criteria pollutants have aggravated problems of toxic emissions. For instance, as explained in last week's Fact Sheet, oil companies responded to rules phasing down the lead content in gasoline by increasing the benzene levels in the fuel.

In the special case of diesel particulates, EPA has acted to regulate emissions directly. For heavy-duty vehicles, the current particular standard is 0.6 grams per brake horsepower-hour (g/bhp-hr), tightening to 0.25 g/bhp-hr in 1991 (0.1 g/bhp-hr for urban buses) and 0.1 g/bhp-hr in 1994. The standard for light-duty cars is 0.2 grams per mile (gpm) and for light-duty trucks 0.26.

C. Passenger Exposure to Toxic Emissions from Motor Vehicles

Passengers riding in cars and trucks receive especially high levels of exposure to the toxic emissions from motor vehicles. Recent work in California has found that the benzene levels inside cars in congested traffic are four times higher than general ambient concentrations.

II. TOXIC EMISSIONS FROM AREA SOURCES

"Area sources" are stationary toxic sources that are too small to be regulated as major sources of toxic emissions. In several legislative proposals, including the Leland/Molinari bill (H.R. 2585), the Dingell bill (H.R. 4), and the Senate Environment Committee bill (S. 816), area sources are defined as sources that individually emit less than 10 tons of toxic substances into the air annually.

Principal area sources of toxic emissions can be identified by the contribution that they make to the annual cancer incidence attributable to toxic emissions. Under such an approach, the most important area sources are chromium emissions from electroplating operations (10% of annual cancer incidence); woodsmoke (4%); chromium emissions from apartment-building and industrial cooling towers (3%); emissions from gas stations (2.5%); and solvent use and degreasing (1%).

As is the case with motor vehicle emissions, EPA and the states have in general taken few actions to control toxic emissions from area sources directly. For instance, no regulatory controls have been imposed on chromium emissions from electroplating operations or on emissions from solvent use and degreasing. In the case of chromium emissions from cooling towers, EPA proposed banning the use of chromium as a fungicide in 1988 to remove bacteria from the cooling water. But to date the Agency has taken no final action to deal with this problem.

In certain cases, controls on toxic emissions from area sources have resulted indirectly from controls on criteria pollutants. For instance, "stage II" vapor recovery systems at gas stations, which are required in certain ozone nonattainment areas, help control toxic emissions from gasoline vapors. Another example is woodsmoke emissions from new wood stoves. EPA has acted under section 111 of the Clean Air Act to promulgate new source performance standards for new wood stoves that limit particulate emissions.

III. LEGISLATIVE PROPOSALS FOR CONTROLLING TOXIC EMISSIONS FROM MOBILE AND AREA SOURCES

Legislative proposal for controlling toxic emissions from mobile and area sources span a range of options. The Leland/Molinari bill (H.R. 2585) has the most comprehensive program. It would require EPA to promulgate technology-based regulations for controlling toxic emissions from both mobile and area sources. At the other end of the spectrum, the Dingell bill (H.R. 4) and, it appears, the Administration proposal contain no provisions requiring regulatory action to control toxic emissions from mobile or area sources. The Senate Environment Committee bill (S. 816) Calls for EPA to develop a control strategy for area sources using existing regulatory authorities.

[From the Clean Air Facts, Aug. 2, 1989]

TOXIC EMISSIONS: ACCIDENTAL RELEASES

Releases of toxic substances into the air can be divided into two groups depending upon whether they are routine releases, such as emissions for industrial smokestacks, or they are sudden, irregular accidental releases. The most notorious example of an accidental release is the catastrophic release of methyl isocyanate in Bhopal, India, that killed more than 3,000 people.

Routine releases were discussed in the last two fact sheets. This Fact Sheet describes the problems posed by accidental releases.

CHARACTERISTICS OF ACCIDENTAL RELEASES

Accidental releases occur with surprising frequency. EPA reports that between 1980 and 1987, 11,048 accidental releases of toxic chemicals occurred in the U.S. These releases killed 309 people and caused 11,341 injuries. They also caused the evacuation of nearly 500,000 people.

Of these releases, 4,375—or nearly two a day—produced toxic clouds. Although these releases were just 40% of the total, they represented 63% of the accidental releases causing death or injury and 75% of the releases requiring evacuations.

In one five-year period between 1982 and 1987, 37 accidental air releases killed two or more people; 46 injured 40 or more; and 37 led to the evacuation of 2,00 or more. During this period, one of the single worst events occurred at a Union Carbide chemical plant in Institute, West Virginia, where an air release of aldicarb oxide in August 1985 injured 430.

CATASTROPHIC ACCIDENTAL RELEASES

While some accidental releases may pose relatively minor threats to human health or the environment, others have the potential to be truly catastrophic. The most disastrous release ever was the accidental release of methyl isocyanate (MIC) from the Union Carbide chemical plant in Bhopal, India. On December 3, 1984, a storage tank burst open, releasing 30 tons of MIC into the atmosphere. The release killed over 3,000 people and injured more than 200,000.

The Bhopal incident is not unique, however. According to EPA, there have been 17 accidental releases of toxic chemicals in the U.S. since 1980 that had potential toxic effects greater than the Bhopal release. In each case, the "quantity/toxicity ratio" of the release, a measure of the release's potential catastrophic injury, exceeded the Bhopal ratio. Fortunately, a number of factors prevented the U.S. releases from causing Bhopal-like injuries, including favorable weather, the remoteness of the releases, and conditions that kept some of the releases from becoming airborne. Nevertheless, five deaths did occur, a number that EPA calls "surprisingly lower than might be expected."

Accidental releases are particularly dangerous when they involve substances that

form ground-hugging, toxic clouds when released. Examples of such substances include chlorine, phosgene, anhydrous.

EXISTING LAW ON ACCIDENTAL RELEASES

Existing law contains few provisions regulating the prevention, detection, or response to accidental releases. The Emergency Planning and Community Right-to-Know Act of 1986 (title III of the Superfund Amendments and Reauthorization Act of 1986) established local emergency planning commissions and directed the local commissions to develop plans for responding to chemical accidents, including those that involve releases to the air. The Act also required industrial facilities to notify the local commissions when the facilities possess toxic substances above threshold amounts and when accidental releases occur.

However, title III does not require the industrial facilities themselves to prevent, detect, or respond to accidental releases. In these areas, the actions of industry are essentially unregulated under existing laws.

STATUS OF ACCIDENTAL RELEASE PREVENTION AND RESPONSE PRACTICES

In 1988, EPA completed a survey of how industrial facilities prevent, detect, and respond to accidental releases. The survey covered 150 facilities handling 21 extremely hazardous substances.

The survey found widespread deficiencies in current industrial practices. Only ten percent of the facilities trained employees in hazard evaluation or accident prevention. More than one third of the facilities had no preventive maintenance program, while many of the other facilities had preventive maintenance programs for only a limited range of equipment and no regular maintenance schedule. Few facilities used emergency backup systems, such as emergency power or cooling systems, to prevent accidental releases. And few used release control technologies, such as scrubbers or flares, to prevent accidentally released gases from reaching the ambient air.

Fewer than half of the facilities used leak detectors. The most common method for detecting accidental releases was direct observation by employees—even though this method exposes employees to toxic gases and is ineffectual in the case of odorless and invisible gases. Less than ten percent of the facilities used perimeter monitoring to detect when accidentally released gases escape the facility boundaries.

Roughly one third of the facilities lacked procedures for determining when an accidental release justified notifying local authorities. Most facilities relied on local telephone lines to warn local authorities of accidental releases, even though the same event that causes the accidental release may render the phone lines inoperable.

LEGISLATIVE PROPOSALS FOR CONTROLLING ACCIDENTAL RELEASES

The Leland/Molinari bill (H.R. 2585) on toxic air pollutants contains the most comprehensive provisions on accidental releases. It would require EPA to identify the 100 substances that pose the most danger when accidentally released. Facilities handling more than a de minimis quantity of such substances would have to develop and implement risk management plans demonstrating compliance with EPA regulations on prevention, detection, and response. The bill would also create a chemical safety and hazard investigation board to investigate and report on accidental releases. The bill introduced by 12 members of the Senate Environment Committee (S. 816) takes a similar approach to accidental releases.

The Dingell-Lent bill (H.R. 3030) proposes creating of a chemical safety and hazard investigation board, but contains no other accidental release provisions. It would not require or authorize EPA to issue regulations to control accidental releases. Ammonia, hydrogen chloride, and hydrogen fluoride—all compounds commonly used in large quantities at industrial facilities around the country.

[From the Clean Air Facts, Oct. 23, 1989]

SUBCOMMITTEE MARKUP OF H.R. 3030

The House Health and the Environment Subcommittee concluded markup of clean air legislation on October 11, 1989. This issue of Clean Air Facts summarizes the markup proceedings and offers a preview of the issues likely to be debated as the bill moves toward the House floor.

The Subcommittee used the Adminstration's clean air proposal (H.R. 3030) as the markup vehicle and made important changes to it. The most significant changes involved title II of the bill, relating to emissions from cars and trucks. The Subcommittee unanimously adopted amendments that tightened tailpipe standards in two phases, required control of evaporative and refueling emissions, eliminated emissions "averaging," and established a new program for controlling toxic emissions from cars and trucks.

The progress made in resolving contentious mobile source issues was not achieved in other areas, however. A comprehensive amendment title I that would have established a system of graduated control requirements in polluted urban areas lost on a 10 to 12 vote. Several amendments to strengthen title III, relating to toxic emissions, were also defeated or withdrawn, including amendments to require regulation of all major sources of toxic emissions and to establish a comprehensive program to control chemical accidents.

In addition, an amendment that significantly relaxed the Administration's clean-fuels program passed on a 12 to 10 vote.

I. THE LENT SUBSTITUTE

At the start of the markup, Rep. Lent (R-NY) offered a substitute to the markup vehicle, H.R. 3030. The substitute left most of H.R. 3030 intact. But it did strengthen the bill in two significant areas. It deleted the provisions in H.R. 3030 that relaxed controls on the tall smokestacks that export pollution to downwind jurisdictions. And it also deleted the provisions that repealed mandatory protections for the national parks from nitrogen oxide and other pollutants.

Subsequent amendments during the markup were to the Lent substitute.

II. TITLE I: CONTROL OF URBAN SMOG

Title I of the Administration bill sets out a program for attaining ambient air quality standards for ozone, carbon monoxide, and particulate pollution. It contains several highly controversial elements. These issues were not successfully resolved during the subcommittee markup.

A. The Waxman Smog Control Amendment

Rep. Waxman (D-Cal) offered a substitute to title I that differed from H.R. 3030 in three key areas: it established a system of graduated control requirements in nonattainment areas; it incorporated mandatory milestones and sanctions; and it tightened federal control measures. This amendment lost on a 10-12 vote.

1. Graduated Control Requirements

H.R. 3030 classifies ozone nonattainment areas into four classifications—marginal, moderate, serious, and severe—and extends the expired attainment deadline in current law to 1996 to 2011, depending on the classification. Unlike prior smog control proposals, the bill does not link the stringency of stationary source control requirements to the length of the deadline extension or the severity of the nonattainment area's pollution. Under H.R. 3030, stationary sources such as factories or refineries in areas with severe pollution problems (e.g., Los Angeles, New York) are subject to the same control requirements as stationary sources in areas with moderate pollution problems (e.g., Nashville, Tenn.; Poughkeepsie, N.Y.). Nor does H.R. 3030 relate transportation control requirements to area classifications.

By contrast, the Waxman amendment established a graduated program of control requirements for stationary and other sources that matched the requirements to the area's nonattainment classification. The amendment was drawn largely from the "Group of Nine" bill (H.R. 99), which was introduced by nine Democratic members of the Energy and Commerce Committee, and the Waxman/Lewis bill (H.R. 2323).

The amendment established five nonattainment areas—marginal, moderate, serious, severe, and extreme. For each classification, it required progressively tighter standards for new and existing sources. It also created a special program of control requirements for Los Angeles, the only "extreme" area, modeled after the provisions in the Waxman/Lewis bill.

2. Milestones and Sanctions

H.R. 3030 establishes extremely tough sanctions for nonattainment areas that fail to submit or implement pollution control plans. These sanctions include measures such as a ban on extending drinking water to new buildings and a ban on the construction of new pollution sources. However, the bill makes application of these sanctions entirely discretionary.

The Waxman amendment substituted mandatory, but less onerous, sanctions for nonattainment areas that fail to submit or implement a pollution control plan. The new sanctions include a cut-off of local highway funds and increased ratios for new sources.

The amendment also established a new system of three-year milestones to keep areas on track toward attainment. Under H.R. 3030, states and EPA have no obligation to assess interim progress in meeting emission reduction requirements, so severely polluted areas could go as long as twenty years without having to demonstrate pollution reductions. The amendment required areas to report on their pollution reductions every three years—and to increase control requirements as necessary to maintain progress.

3. More Stringent Federal Control Measures

The Waxman amendment also substantially strengthened federal measures to control sources of ozone pollution that are not amenable to local regulation.

The amendment incorporated the provisions from H.R. 99 calling for a 50% reduction in emissions from evaporation from paints, varnishes, household cleaners, and other solvents and consumer and commercial products. These emissions account for 27% of the national inventory of hydrocarbon emissions. By contrast, H.R. 3030 au-

thorized, but did not require, federal regulation of these emissions.

The amendment also required EPA to regulate sources operating on the outer continental shelf in the same manner as the sources would be regulated if they were located onshore.

B. Other Amendments

Several other amendments to title I were considered by the subcommittee. Rep. Wyden (D-Or) offered an amendment, which was adopted by voice vote, establishing a technology assistance program to help small sources comply with control requirements. Rep. Nielson (R-Ut) offered an amendment, which was also adopted by voice vote, requiring the use of the best available control measures in areas with serious particulate pollution.

Finally, Rep. Dannemeyer (R-Cal) offered an amendment to eliminate inconsistencies between the planning requirements in H.R. 3030 and those adopted in California. This amendment was also adopted by voice vote.

III. TITLE II: MOBILE SOURCES

In contrast to the deadlock that characterized the debate over title I, the subcommittee made significant progress in resolving issues relating to the control of emissions from mobile sources.

A. Conventional Gasoline- and Diesel-Fueled Motor Vehicles

The subcommittee unanimously resolved most outstanding issues pertaining to the control of emissions from gasoline- and diesel-fueled motor vehicles. Successful amendments addressed the following issues:

Averaging. H.R. 3030 contained provisions allowing car makers to comply with emissions standards through emissions "averaging." According to a report by the Office of Technology Assessment, these provisions could allow emissions to increase by 25% above the relevant standard. The subcommittee voted unanimously to strike the averaging provisions.

Onboard canisters. The subcommittee voted unanimously to require car makers to control refueling emissions by installing onboard canisters. The amendment also provided that moderate nonattainment areas need not require gasoline stations to install "stage II" at-the-pump controls; it also provided that serious and severe nonattainment areas may lift stage II requirements after onboard canisters are in widespread use.

Control of evaporative emissions. H.R. 3030 gave EPA discretionary authority to control "running losses" and other evaporative hydrocarbon emissions from motor vehicles. The subcommittee voted unanimously to require EPA to issue regulations within 33 months controlling these emissions.

Onboard diagnostics. H.R. 3030 gave EPA discretionary authority to require the installation of onboard diagnostics to monitor the effectiveness of the vehicle's pollution control equipment. The subcommittee voted unanimously to require EPA to issue regulations within 33 months mandating onboard diagnostics.

Tailpipe standards. The subcommittee voted unanimously to require passenger cars and light-duty trucks to comply with the California tailpipe standards (0.25 NMHC, 0.4 NOx, 3.4 CO). The vehicles must comply with the standards according to a phase-in schedule that begins in 1994. By 2003, passenger cars and light-duty trucks must meet standards that are 50% below the California standards, unless EPA establishes alternative standards on the basis that the statutory standards are unnecessary, infeasible, or not cost-effective.

Extended useful life. The subcommittee voted unanimously to extend durability requirements for emission controls. Passenger cars and light-duty trucks must comply with the California standards for 100,000 miles during vehicle certification and for 75,000 miles in actual use.

Toxic emissions. The subcommittee voted unanimously to establish a new program for the control of toxic emissions from motor vehicles.

B. Clean-Fuel Vehicles

The centerpiece of the smog control program in H.R. 3030 is an aggressive program to promote the use of low-polluting motor vehicle fuels, such as methanol, ethanol, and natural gas. The subcommittee did not reach a consensus over this program.

In a 12-10 vote, the subcommittee adopted an amendment offered by Reps. Hall (D-Tex) and Fields (R-Tex) that substantially rewrote the clean-fuels program in the Administration bill. The amendment eliminated the mandate in H.R. 3030 that required car makers to "produce, sell, and distribute" clean-fuel vehicles. Instead, it required car makers to "certify . . . that they have the capacity to produce, distribute, and offer to sell" such vehicles.

In addition, the amendment relaxed the performance standard for clean-fuel vehicles. H.R. 3030 required clean-fuel vehicles to achieve the reductions in ozone-producing and toxic air emissions that result from the use of "clean alternative fuels formulated to provide maximum reductions of such emissions," such as methanol and natural gas.

The Hall/Fields amendment replaced this standard with one requiring clean-fuel vehicles to achieve only the emission reductions equivalent to those produced by use of "M85," an alternative fuel that is 85% methanol, 15% gasoline. Analyses by EPA, the petroleum industry, and others conclude that use of M85 reduces emissions in the range of 0% to 30% below the level emitted by gasoline-fueled vehicles. In comparison, use of pure methanol or natural gas can achieve emission levels 80% to 90% below the level emitted by gasoline-fueled vehicles.

The Hall/Fields amendment also expanded the definition of a clean fuel to include M85 and reformulated gasoline, refined requirements for oxygenated fuels, and added requirements for centrally fueled fleets to use clean fuels.

C. Warranties

The subcommittee also failed to resolve a controversy regarding emission control warranties. Rep. Waxman has proposed that the current 5-year/50,000 mile warranty on motor vehicle emission controls be extended to 8-years/80,000 miles for key emission control components like the catalytic converter, but reduced to 2-years/24,000 miles for other components. By contrast, Rep. Dingell has sponsored legislation that rolls back the warranty to 2-years/24,000 miles for all but the key emission control components. The Dingell proposal would not extend the warranty for any components.

No vote on the warranty issue occurred at subcommittee.

IV. TITLE III: TOXIC EMISSIONS

Several significant amendments to title III, relating to toxic emissions, were raised during the subcommittee markup. As with title I, however, the subcommittee failed to reach consensus on these issues.

A. Sources Subject to Regulation

H.R. 3030 defines a "major source" of toxic emissions as a source that emits more than 10 tons per year of any hazardous air pollutant. It then requires EPA to list all categories of major sources and to regulate emissions from 50% of these categories within seven years. Regulation of the remaining 50% of source categories is discretionary with EPA. The Lent substitute preserved this basic structure, but required EPA to provide an explanation for each decision not to regulate a source category.

Rep. Wyden (D-Ore) offered an amendment to require regulation of all listed categories of major sources within 12 years. The amendment was withdrawn before a vote, with the understanding that it would be pursued in full committee.

B. Regulatory Standards

Under H.R. 3030, regulated source categories must initially comply with emission standards based on the maximum achievable control technology (MACT). At a minimum, these MACT standards must be set at a level achieved in practice by the best controlled similar sources. An amendment by Ms. Collins (D-Ill) clarified that in determining the minimum level for MACT, costs and other economic factors cannot override the statutory MACT floor.

H.R. 3030 establishes a second phase of standards where necessary to prevent "unreasonable risk" to public health. Rep. Richardson (D-NM) announced during the subcommittee markup that he plans to offer an amendment at full committee that defines an "unreasonable risk" to be any cancer risk greater than 1 in 1 million.

C. Accidental Releases

According to EPA, between 1980 and 1987 there were more than 11,000 accidental toxic releases resulting in more than 300 deaths and more than 10,000 injuries. The Lent substitute directs EPA to issue "reasonable regulations" for the prevention of accidential releases of air toxics. It also called for the establishment within EPA of a board to investigate and report on chemical accidents.

Rep. Richardson (D-NM) offered an amendment at subcommittee mark-up establishing a more comprehensive program to protect against accidental releases. Drawn from the Leland/Molinari bill (H.R. 2585), the amendment required EPA to produce a list of 100 chemicals presenting serious accident risks. It also required facilities handling such chemicals to evaluate the risk of accidental releases and prepare risk management plans. The amendment also increased the independence of the accident release board by transferring the authority to appoint members from EPA to the President.

The Richardson amendment was defeated at subcommittee by a vote of 9 to 12 and is expected to be pursued at the full committee markup.

D. Protection of the Environment

H.R. 3030 includes no provision for protection of the Great Lakes or other environmental resources from toxic emissions. The Lent substitute, however, added provisions requiring EPA to study the effect of toxic emissions on the Great Lakes and to promulgate additional regulations as necessary.

Rep. Sikorski (D-Minn) offered an amendment to provide further protection to the Great Lakes. This amendment required EPA to regulate all significant sources of emissions of seven pollutants that bioaccu-

mulate and cause particular damage to the Great Lakes. This amendment was defeated 5 to 7 and is expected to be pursued at the full committee markup.

Rep. Sikorski also indicated that he plans to offer an amendment in full committee that authorizes EPA to list and regulate chemicals as hazardous air pollutants based on their impacts to the environment.

V. TITLE IV: PERMITS

No amendments were offered to title IV, relating to air pollution permits.

VI: TITLE V: ACID RAIN

H.R. 3030 includes an acid rain program intended to reduce sulfur dioxide emissions by ten million tons below 1980 levels by the year 2000, and to reduce nitrogen oxides emissions by two million tons below projected year 2000 levels by the same year.

Rep. Sikorski offered several strengthening amendments. One amendment increased the required reductions of nitgrogen oxides (NO_x) from two million tons to four million tons. This amendment offset anticipated growth in NO_x emissions of three million tons. To achieve the additional reductions, the amendment authorized EPA to require NO_x pollution reductions from industrial sources, in addition to the utility sources already regulated in H.R. 3030. This amendment lost on a voice vote.

Another Sikorski amendment required EPA to reduce sulfur dioxide emissions from industrial boilers and smelters by one million tons below 1980 levels by the year 2000. The President's proposal assumed that one million tons of reductions will be achieved from these sources, but established no program to assure that these reductions actually occur or are maintained. This amendment was withdrawn at the request of members seeking to develop compromise language on the issue.

Congressman Sikorski also proposed an amendment to move up the acid rain clean up deadlines from the year 2001 to the year 2000, to match the dates for clean up promised in the President's announcement of his clean air program. This amendment was defeated on a 9 to 13 vote. Rep. Sikorski indicated that he would continue to pursue his amendments at the full committee.

Other amendments to the acid rain title were discussed but not offered. Rep. Bliley (R-Va) announced his intention to pursue an amendment that adjusts the formula for allocating emission allowances in the President's proposal. This amendment would facilitate growth in low polluting areas, while keeping the overall reductions achieved under the bill unchanged.

Circulated, but not offered, were several amendments by Congressman Bilirakis to adjust the cap on growth of acid rain emissions.

While the notion of establishing a cost-sharing program to minimize the regional economic impact of acid rain control was discussed, no cost sharing proposal was offered at the subcommittee mark-up.

VII. TITLE VI: ENFORCEMENT

No amendments were offered to title VI, relating to enforcement, at subcommittee. Ms. Collins (D-Ill) indicated, however, that she would offer an amendment at full committee expanding district court jurisdiction to consider citizen suits alleging unreasonable delay.

VIII. TITLE VII: MISCELLANEOUS

No amendments were offered to title VII, containing miscellaneous provisions. Rep. Wyden (D-OR) indicated, however, that he would offer an amendment at full committee expanding protection of the national parks from air pollution.

IX. REPORTED BILL

The subcommittee adopted the Lent substitute, as amended, by voice vote. The subcommittee then voted unanimously to report H.R. 3030 to the full committee.

Markup in the full Energy and Commerce Committee may commence on November 1.

[From the Clean Air Facts, Feb. 2, 1990]

CAUSES AND IMPACTS OF ACID RAIN

This Fact Sheet is the first of two that will examine the acid rain issues confronting Congress this session. These issues are among the most important—and most complex—in the clean air debate.

The Fact Sheet provides an overview of the sources of acid rain, the multifaceted impacts of the pollution, and current control requirements and technologies. It will be followed by an issue that discusses the acid rain control program (H.R. 3030) that is moving through the House.

I. WHAT IS "ACID RAIN"?

Acid rain is a "secondary pollutant"—one that forms from chemical reactions in the atmosphere. It is caused by emissions of sulfur dioxide (SO_2) and nitrogen oxides (NO_x). These emissions react in the atmosphere to form tiny acidic particles, called sulfate and nitrates. The sulfate and nitrate particles can remain airborne for hundreds, or even thousands, of miles. When they are finally washed out of the atmosphere by rains, they turn into sulfuric and nitric acids—producing "acid rain."

Acid rain is an extremely widespread pollutant. In the 31 states east of the Mississippi, rain is almost always acidic. The average rain there has a pH of 4.5, three times more acidic than unpolluted rain (which has a pH of 5.0 or higher). And in the most affected areas of the country, such as parts of Pennsylvania, Ohio, West Virginia, Maryland, and New York, the rainfall is nearly ten times more acidic than normal.

Acid rain is actually only one of several forms of acid deposition. Sulfates and nitrates can be deposited from the atmosphere in acidic snows or fogs. Or they can settle out as dry particles, to turn into acids on contact with surface waters.

II. SOURCES OF ACID RAIN

A. SO_2 Emissions

Sulfur dioxide (SO_2) emissions cause two-thirds of the acid rain and other forms of acid deposition falling in the Eastern U.S. They cause a similar, but somewhat lower, portion of the acid deposition falling in the Western U.S.

Ninety percent of SO_2 emissions result from the combustion of fossil fuels, especially coal. The largest single source of SO_2 emissions is the utility industry, which produces 70% of nationwide emissions. Within the utility industry, old coal-fired power plants are the worst emitters; they are responsible for 90% of the utility emissions.

There are several other important SO_2 sources. Industrial processes (e.g., petroleum refining, pulp and paper manufacturing, iron and steel production) cause 13% of SO_2 emissions. Industrial boilers that burn coal or oil to generate steam or electricity account for another 11% of the national inventory. Other assorted sources—primarily residential and commercial fuel consumption and motor vehicles—emit about 4% of the national inventory.

The following table shows EPA's estimates of historical and predicted future SO_2 emissions, in millions of tons. The year 2000 and 2010 figures assume the continuation of current control requirements with one exception. The estimates assume desulfurization of motor vehicle diesel fuel between 1985 and 2000.

Source cateogy	1980	1985	2000	2010
Utilities	17.4	16.3	17.1–19.4	15.7–20.7
Nonutility sources	8.7	7.6	7.2–7.2	—
Total	26.1	23.9	24.3–26.6	—

Regionally, the highest concentration of SO_2 emissions come from utilities in Midwestern states that burn high-sulfur coal to generate electricity. Just nine states—Ohio, Indiana, Pennsylvania, Illinois, Missouri, Tennessee, Kentucky, West Virginia, and Georgia—account for 50% of the nationwide inventory of SO_2 emissions.

B. NO_x Emissions

Nitrogen oxide (NO_x) emissions are the other major precursor to acid rain, causing about one third of the acid rain in the East and more in the West.

NO_x emissions are a by-product of the combustion of fossil fuels, including coal, natural gas, oil, and gasoline. Utilities emit 33% of the national inventory of NO_x; industrial sources, 20%; and cars, trucks, and other "mobile sources," 43%.

The following table shows recent estimates from the Office of Technology Assessment of historical and predicted future NO_x emissions, in millions of tons, assuming no additional controls.

Source category	1985	1999	2004
Utilities	6.8	8.6	9.3
Industrial and other stationary sources	3.6	5.1	6.0
Mobile sources	8.8	8.5	9.3
Total	19.2	22.2	24.6

III. THE IMPACTS OF ACID RAIN IN THE U.S.

Acid rain has been studied in thousands of scientific reports. It was first discovered over a hundred years ago by an English chemist. Scientific consensus about the significance of acid rain coalesced in the U.S. in 1981, when the National Academy of Sciences found "clear evidence of serious hazard to human health and the biosphere" from emissions of suflur and nitrogen oxides.

This scientific research has shown that acid precipitation causes a wide range of deleterious impacts—ranging from serious health effects, to the acidification of lakes and streams, to stunted forests, visibility impairment, and damage to man-made materials.

A. Health Impacts

SO_2 and NO_x emissions rapidly transform into small acidic sulfate and nitrate particles called "acid aerosols." These acid aerosols irritate the lungs, causing constricted breathing. Epidemiological studies have found that hospital admissions for acute respiratory illnesses increase as levels of acid aerosols rise. Asthmatics and others with already impaired breathing abilities are especially vulnerable.

Epidemiological studies have also linked acid aerosols to increased incidence of chronic cough and bronchitis (as opposed to acute repiratory illness) and ultimately to

death rates. The most alarming work has been done by researchers at Harvard University. They have concluded that acid aerosols contribute to 2%-5% of the premature mortality in the U.S.—40,000 to 100,000 deaths per year.

Acid rain can also adversely affect human health indirectly by leaching toxic heavy metals, like lead and mercury, from minerals in the soil. These metals can be washed into drinking water supplies, where they are consumed by humans.

The American Lung Association has estimated that the health costs of acid rain could be as high as $432 billion annually, assuming a "worst-case" dose-response correlation between sulfate pollution and premature deaths.

B. Aquatic Impacts

Nationally, acid deposition has acidified over one thousand large lakes (greater than 10 acres) and thousands of miles of streams. According to the Office of Technology Assessment, thousands more lakes and streams are "extremely vulnerable" to further acidification.

1. Extent of Acidification

Acidification of lakes and streams in the U.S. is widespread—and the major cause of these impacts is acid rain. Although there are some natural acidic water bodies, "most of the acidity comes from acid deposition," according to the findings of a ten-year federal study, the National Acid Precipitation Assessment Program (NAPAP).

NAPAP has surveyed the level of acidity in lakes and streams in various regions. It classified water bodies as already acidic or as "sensitive" to further acidification due to reduced buffering capacity. The following charts summarize the results of the survey.

ACID LAKES

Region	Percent acidified lakes	Percent acid-sensitive lakes
Northeast	5	19
Upper Midwest	2	15
Mountain West	0	17

ACID STREAMS

Region	Percent acidified streams	Percent acid-sensitive streams
Mid-Atlantic	4	16
Southeast	1	5

Certain subregions are particularly hard-hit. In the Andirondack Mountains in the Northeast, for instance, 11% of the lakes are already acidic and 36% are sensitive. On the Michigan Peninsula in the Upper Midwest, 10% of the lakes are already acidic and 19% are sensitive.

Actually, the NAPAP data appears to underestimate the extent of acidification in the U.S. NAPAP surveyed only large lakes greater than 10 acres in size. When New York State surveyed both large and small lakes in the Adirondacks, it found that over 25% of the lakes were already acidic.

2. Biological Effects of Acidification

The waters classified as acidic by NAPAP have experienced severe biological impacts. Most acidic water bodies have a pH of 5.0 or lower. At this level, most fish die or cannot reproduce.

"Sensitive" waters also experience biological impacts. They are susceptible to episodic acidification during spring snow melt or heavy rainstorms. Episodic acidification can kill young fish and eggs.

3. Future Trends in Acidification

The vulnerability of a water body to acidification depends primarily on two factors: the "total loading" of acidity that falls within the watershed and the capability of the soil and bedrock to buffer or neutralize the acidity. With constant or increased rates of total loading, the buffering capacity of more watersheds will be consumed, which in turn will cause more acidification of water bodies. Conversely, with decreased loading, soils will gradually regain their buffering capacity, which in turn will allow the affected water bodies to recover.

EPA has examined rates of acidification under various scenarios of future acid deposition. This work shows that emissions reductions would significantly benefit aquatic resources. A 30% reduction in acid deposition, for instance, would allow 50% of the acidic lakes in the Northeast to recover.

Moreover, EPA's study shows that without reductions in acid deposition, streams in both the Southeast and Mid-Atlantic regions will continue to acidify. Currently, there are no acidic streams in the Southern Blue Ridge Mountains and less than 1% are sensitive. However, under a constant deposition scenario, 10% of the streams in the region become acidic and 15% become sensitive.

Other studies have shown potentially even greater impacts from future acidification. OTA has estimated that 3,000 lakes and 23,000 miles of streams are "extremely vulnerable" to further acid deposition.

4. Special Impacts: Leaching and Eutrophication

Besides directly acidifying surface waters, acid rain can leach heavy metals into lakes and streams. This is particularly a problem in the Great Lakes states. Biologists have found unsafe mercury levels in fish in inland lakes in Michigan, Wisconsin, and Minnesota. Acid rain is contributing to this problem by leaching mercury from the surrounding soils into the lakes.

Acid rain also injures aquatic resources by contributing to eutrophication—the gradual suffocation of a water body. Researchers studying the Chesapeake Bay have found that the nitrogen compounds in acid rain account for 25% of the nitrogen entering the Bay. This nitrogen acts as a fertilizer that causes excessive algae blooms. When the algae die and decay, they depress oxygen levels in the Bay, threatening fish populations.

C. Forest Impacts

Acid rain also threatens forests. Contact with highly acidified rain or fog can directly injure leaves and needles. And over the long term, acid rain stunts tree growth by altering soil chemistry, both by washing away vital nutrients, such as magnesium and calcium, and by contaminating the soil with heavy metals like aluminum that are freed from soil particles.

The red spruce forests along the crest of the Appalachian Mountains, which stretch from Maine to Georgia, have been the most damaged. These forests have suffered widespread decline, including the death of 40%-70% of the spruce on some mountaintops in Vermont, New York, and North Carolina. NAPAP has found that regular exposure to extremely acidic clouds (average pH of 3.6) is contributing to the decline.

D. Visibility Impacts

One of the most significant impacts of acid rain is its effect on visibility. The sulfate particles that form from SO_2 emissions scatter light and reduce visits. The problem is particularly great during summer months, because high humidity and temperatures promote sulfate formation.

Acid rain's visibility impacts are extremely widespread. Throughout the East Coast, summertime visibility has decreased by 50% over the last 40 years. In fact, due to these visibility impacts, the summer has changed from the season with the greatest visibility in the East to the season with the worst visibility. Sulfates cause 70% of the summertime visibility impairment in the East, according to the National Park Service.

Pristine areas, such as national parks in the West, are especially susceptible to visibility impairment. An added increment of sulfate pollution has a much greater effect on visibility in clean air than in already polluted air. According to the National Park Service, vistas in the national parks are impaired by man-made pollution 90% of the time, with 50% of the impairment being attributable to sulfates.

E. Materials Impacts

Acid rain also causes substantial economic impacts by eroding man-made building materials, such as steel, stones, and paint. According to some estimates, the damage in 17 Eastern states alone could be as high as $2 billion per year.

The same erosional forces also threaten historic monuments, particularly those made of marble. According to National Park Service estimates, acid rain is shortening the life span of marble statues in historical parks like Gettysburg by 25%.

F. Acid Rain in the West

Acid rain impacts are most acute in Eastern states, because these states are downwind from the country's largest sources of acid-rain-forming emissions—coal-fired Midwestern power plants. However, acid rain poses significant threats to the West as well.

Although no lakes in the West are currently acidic, NAPAP's survey shows that 17% are "sensitive" to acidification. These lakes can be temporarily acidified during spring snow melts and summer storms. These "acidic pulses" are already affecting salamander populations in the Colorado Rockies. The National Park Service has found similar acid pulses in California's Sierra Nevada Mountains.

Moreover, visibility impacts are especially severe in the West. As mentioned above, Western parks such as the Grand Canyon have naturally clean air that is readily degraded by small increments of sulfate pollution.

IV. THE IMPACTS OF ACID RAIN IN EUROPE AND CANADA

Acid rain is an international problem. The impacts in Europe are particularly sèvere—representing a worst-case scenario for the U.S. In Sweden and Norway, more than 30,000 lakes have been acidified, mainly due to emissions originating in Central Europe and England. And in West Germany, fully half of the trees have been damaged by acid rain, including half of those in the Black Forest.

Canada also suffers heavily from acid rain, because many of its watersheds have very little buffering capacity. The Canadian government says that 14,000 lakes in Canada have been acidified (pH of 5.0 or less) and that 150,000 lakes have suffered

some biological damage from acid rain. The government estimates that half of the acid rain in Canada comes from U.S. emissions.

V. CONTROL STRATEGIES FOR ACID RAIN

Fortunately, acid rain can be controlled. There are a number of readily available technologies that can lower SO_2 and NO_x emissions—and thereby reverse or at least limit acid rain's adverse impacts.

A. SO_2 Controls

There are two basic strategies for reducing SO_2 emissions from coal-fired power plants: fuel-switching and scrubbing.

Fuel switching involves shifting the fuel source of a coal-fired power plant from high-sulfur to low-sulfur coal. High-sulfur coal contains up to 5 lbs of sulfur per million Btu of heat content. (Such coal will produce about 10 lbs of SO_2 per mmBtu when burned in an uncontrolled power plant.) By contrast, the very cleanest coal contains less than 0.5 lbs of sulfur per mmBtu. Switching between these fuels can cut emissions by 90%.

Fuel switching can also often be an economical way to lower SO_2 emissions, depending on the proximity of the nearest low-sulfur coal. Typical costs currently run about $200 to $300 per ton of SO_2 removed. However, fuel switching shifts jobs away from high-sulfur coal mines, with adverse impacts on employees and economies dependent on jobs in those mines.

The most effective control alternative is to install "scrubbers" on power plant smokestacks. These devices inject lime or limestone into the emissions from the plant, capturing up to 95% of the SO_2 emissions. Scrubbers cost $300 to $600 per ton of SO_2 removed, with the greatest cost-effectiveness being achieved at large plants that can take advantage of economies of scale.

Current law requires SO_2 controls only on "new plants"—those built since 1971. The 1971 new source performance standard required new power plants to acheive an SO_2 emission rate of 1.2 lbs/mmBtu. This rate could be met by any control strategy, including burning low-sulfur coal. In 1979, EPA amended the new source standard to implement the "percent reduction" requirement of the 1977 amendments to the Clean Air Act. The 1979 standard mandates that all new plants reduce SO_2 emissions by 70%-90%, regardless of the sulfur content of the coal being used. It has effectively required all new power plants to install scrubbers.

B. NO_x Controls

There are also three principal control strategies for lowering NO_x emissions from power plants and other major stationary sources: low-NO_x burners, gas reburning, and selective catalytic reduction. (Strategies for reducing NO_x from mobile sources are discussed in issue 5 of Clean Air Facts.)

NO_x formation during combustion is a function of the combustion temperature. "Low-NO_x burners" lower these temperatures, reducing NO_x emissions by 25%-50%. The cost of this technology is about $200 per ton of NO_x removed.

"Gas reburning" is another readily available control strategy. In this process, natural gas is burned in the boiler above the main combustion area, destroying as much as 40% of the NO_x emissions. Its costs are depended on the price of natural gas, but are generally slightly above those of low-NO_x burners.

The most effective control technology is selective catalytic reduction (SCR), which involves injecting ammonia into the smokestack to convert NO_x to elemental nitrogen and water vapor. SCR can reduce NO_x by up to 90%. NAPAP estimates that SCR costs $2,000 to $4,000 per ton, but new EPA estimates suggest that SCR can be accomplished for as little as $600 per ton.

Current law regulates only new plants, requiring them to meet a NO_x standard of 0.6 lbs/mmBtu.

C. "Clean Coal" Technologies

"Clean coal" technologies refer to innovative techniques for reducing SO_2 and NO_x emissions. Since 1984, the Department of Energy has promoted development of clean-coal technologies by partially funding demonstration projects. Forty projects have been selected under DOE's program to date.

There are two basic types of clean-coal technologies: retrofit technologies, which are designed to reduce SO_2 and NO_x emissions from existing plants, and repowering technologies, which are designed for use when an existing plant is rebuilt from ground up. The more promising repowering technologies include fluidized bed combustion, which involves burning a coal-limestone mixture as it is suspended in midair by jets of air, and coal gasification, which involves converting coal to a gas prior to combustion. Fluidized bed combustion can reduce SO_2 emissions by 90% or more, about the same as a scrubber, and increase the efficiency of the power plant by 10% or more. Coal gasification can reduce SO_2 emissions by 99%.

According to DOE estimates, most clean-coal technologies should be commercially available by 1996 to 1998.

[From the Clean Air Facts, Feb. 28, 1990]

ACID RAIN LEGISLATION

The last issue of Clean Air Facts discussed the causes and impacts of acid rain. This issue discusses legislative proposals to control acid rain.

It provides an overview of acid rain legislation in the House during the 1980s and then examines in greater detail the leading acid rain legislation in the 101st Congress—the Administration's acid rain control program (H.R. 3030). The Administrations bill uses a novel market-based approach to achieve important reductions in sulfur dioxide, one of the leading precursors to acid rain. It is expected to be marked up before the full Energy and Commerce Committee in March 1990, and is also the basis of the acid rain control program in the bill reported by the Senate Environment and Public Works Committee (S. 1630).

I. THE NEED FOR NEW ACID RAIN LEGISLATION

The Clean Air Act does not effectively address the problem of acid rain. The original law was designed mainly to reduce high pollution levels that tend to occur near major pollution sources. It did not contemplate that long-distance transport of air pollutants could cause widespread adverse impacts—as is the case with acid rain.

In fact, existing clean air laws have actually aggravated acid rain problems. In an approach of dubious legality, many power plants used tall smokestacks in the 1960s and early 1970s to disperse pollution and avoid exceeding ambient standards without resorting to expensive control technologies. Little consideration was given to the possibility that even if the ambient standards weren't exceeded, the pollution might cause environmental damage when it returned to earth.

Scientists have since learned that sulfur dioxide (SO_2) and nitrogen oxide (NO_x) pollution from power plants, factories, and other sources can be carried hundreds or even thousands of miles through the atmosphere, chemically transformed in the process, and eventually returned to earth as sulfuric and nitric acids. These acids often are picked up in droplets of rain or snow, but sometimes the particles simply fall back as "dry deposition." As discussed in detail in the last Clean Air Facts, such acid pollution has been associated with a variety of harmful effects, including the acidification of lakes; the decline of forests; serious health impacts, especially to those with respiratory ailments; and damage to man-made materials, such as buildings, bridges, statuary, and car finishes.

II. ACID RAIN LEGISLATION IN THE 1980S

The generally accepted approach to reducing acid rain is to reduce emissions of the acid forming pollutants, SO_2 and NO_x. Scientists have concluded that it is the "total loading" of these pollutants that leads to environmental damage. Acid rain control proposals to date have generally looked to but fallen short of—the goal of a 50-percent (or 13-million-ton) reduction in national emissions called for by the National Academy of Sciences in 1981.

The first significant acid rain legislation in the House was introduced in the 98th Congress (1983-84) by Reps. Gerry Sikorski (D. Minn.), Judd Gregg (R. N.H.) and Henry Waxman (D. Cal.). The bill, H.R. 3400, required to ten-million-ton reduction in SO_2 emissions and a four-million-ton reduction in NO_x emissions. To protect jobs in high-sulfur Midwestern coal fields, the bill required the 50 power plants with the largest emissions to lower emissions through technological controls—specifically, by installing flue gas scrubbers—rather than by switching fuels. And to protect the Midwestern utilities from rate hikes, the bill provided a 90% subsidy for the capital costs of installing the scrubbers. The bill funded the subsidy with a nationwide fee on electricity generation.

The bill was defeated in the Health and the Environment Subcommittee of Energy and Commerce by a 10 to 9 vote, with key Midwestern members voting against the proposal. H.R. 3400 has since proved to be the high-water mark for national "cost-sharing," by offering a larger subsidy to the Midwest than any serious legislative proposals to follow.

In the 99th Congress (1985-86), supporters of acid rain legislation took a different approach in H.R. 4567. This bill, which was introduced by Reps. Sikorski, Silvio Conte (R. Mass.), Sherwood Boehlert (R. N.Y.), Waxman and over 150 cosponsors, called for a ten-million-ton reduction in SO_2 emissions and a four-million-ton reduction, NO_x emissions, just like H.R. 3400. Unlike H.R. 3400, however, H.R. 4567 did not specify how the reductions were to be achieved. Instead, it established the concept of a "statewide average emissions rate," in this case 1.2 lbs/mmBtu for SO_2 and 0.6 lbs/mmBtu for NO_x. States with emissions in excess of these rates were required to lower their emissions, but were given wide latitude to determine the best strategy for doing so. To ensure that no state faced excessive rate hikes, H.R. 4567 established a federal "insurance policy," promising a federal subsidy to ratepayers in any state that faced increases greater than 10%.

H.R. 4567 passed the Health and the Environment Subcommittee by a 16 to 9 margin in May 1986, but was not considered by the full Energy and Commerce Committee.

In the 100th Congress (1987-88), H.R. 4567 was reintroduced as H.R. 2666 and considered in the Health and the Environment Subcommittee together with H.R. 3054, legislation to control urban smog. The combined legislation was deadlocked in Subcommittee when the 100th Congress ended. The Sikorski-Conte bill was reintroduced in the 101st Congress as H.R. 1470.

III. THE CURRENT ADMINISTRATION PROPOSAL

Throughout its tenure, the Reagan Administration opposed enactment of legislation to control acid rain emissions. The Bush Administration reversed course in 1989, however, proposing its own version of acid rain legislation (H.R. 3030) in the 101st Congress. The Bush Administration's acid rain program calls for achievement of a ten-million-ton reduction in SO_2 emissions below 1980 levels by the year 2001. And it calls for a two-million-ton reduction in nitrogen oxide emissions below projected year 2000 levels by the same year. H.R. 3030 has become the leading acid rain proposal in the 101st Congress.

A. The SO_2 reduction program

To achieve SO_2 reductions, the Administration program relies on a novel free-market approach that grants polluters a limited number of marketable emission "allowances."

Each SO_2 allowance, in essence, grants a source permission to release one ton of sulfur dioxide pollution per year. Allowances can be used for current emissions, sold, or held in reserve for future emission increases. Under the program, it is illegal for any "affected source"—that is, any of the large dirty power plants covered under the program—to release pollution for which they do not have an allowance.

SO_2 emission reductions under the Administration proposal are to be achieved in two phases. Phase I seeks to achieve a four- to five-million-ton reduction by the year 1996. It applies to power plants that are large (greater than 100 megawatts) and especially dirty (emitting more than 2.5 pounds of sulfur per million Btu of fossil fuel consumed). During phase I, allowances can be traded to any source in the same state or the same utility system.

The balance of the SO_2 reductions are to be achieved by the year 2001 in Phase II. Phase II requires greater reductions from the units affected by Phase I, and covers as well all units larger than 75 megawatts that emit sulfur dioxide at a rate greater than 1.2 pounds per million Btu of fossil fuel consumed. In Phase II all of these units are given allowances representing emissions they would release if they continued to operate the same number of hours as they did between 1985 and 1987—this is called their "baseline"—and released pollution at the rate of 1.2 lbs/mmBtu. Trading rules are expanded in phase II, with the nation divided into broad geographic trading regions to be established by EPA.

An exception of the year 2001 Phase II deadline is established for sources that repower using qualified "clean coal technologies"—that is, now technologies for burning coals cleanly. These sources are allowed a deadline extension until 2004.

Clean power plants, those emitting below 1.2 lbs/mmBtu, are not given allowances or subjected to a cap. However, these sources are required to remain at or below their 1985 emission rates. Small power plants, those below 75 megawatts, are also limited to their 1985 emission rate.

B. The cap on sulfur dioxide emissions

The Administration bill requires that all new fossil-fuel fired, electricity-producing boilers have allowances for pollution they will emit before they can operate. This is the "greenfield cap" on emissions. The cap assures that the emissions reductions achieved by the year 2001 under the Administration proposal will not be eroded in future years as new pollution sources come on line and add to the nation's SO_2 emissions. Under the cap, aggregate national SO_2 emissions from utilities and other covered sources should remain constant, because new sources will have to secure allowances from existing sources, which will have to reduce emissions commensurate with new source growth.

The cap is especially important to the Administration program because without it the system of marketable pollution allowances falls apart over time. Under H.R. 3030, when a large electric utility closes down, that source can sell its pollution allowances, or use them for emission increases at another facility. If new sources are not required to purchase allowances, then with each passing year, as more new sources come on line and more old sources retire, there will be more and more allowances available to authorize pollution increases from existing sources. Hence, total pollution levels would increase dramatically over time, while new sources would remain beyond the coverage of the program. Also, the demand for emission allowances would be weakened dramatically if new sources don't need allowances, resulting in a less active market and less cost-effective emission reductions.

According to EPA estimates, new power plants could increase SO_2 emissions by as much as 2.9 million tons per year by 2010 without the greenfield cap, assuming high electricity growth rates.

C. The allocation of allowances

While the above description explains in general terms how the cap works, it is not possible truly understand concerns raised by some utilities and environmentalists about its impacts without a more complete picture of how the emission allowances are allocated under the Administration bill. Pollution sources are given allowances (and subjected to a cap), or subjected instead to a rate limitation (and no cap), or left entirely unregulated, depending on the pollution level and the size and type of the source. The paragraphs below explain how the pollution sources are divided up and treated.

Large Dirty Plants. The allowance system in the Administration bill applies only to large dirty power plants. A "large power plant" is one capable of producing more than 75 megawatts of electricity. A "dirty" power plant is one releasing pollution at a rate greater than 1.2 lbs/mmBtu. For the most part this category is limited to coal-fired power plants burning high- and medium-sulfur coal and some oil-fired power plants burning high-sulfur oil.

Plants falling within this category are allotted allowances in 2001 and after equal to the amount they would have polluted if they had burned the same amount of fuel they did between 1985 and 1987 (this is their "baseline") and operated at an emission rate of 1.2 lb/mmBtu, instead of their actual 1985 rate. These sources will in essence be required to reduce from their 1985 emission level down to 1.2 if they use about the same amount of fuel (that is, they use the same percentage of their capacity to produce electricity). To the extent that these sources reduce their emission rate to below 1.2 or reduce their operation below 1985 to 1987 levels, they can sell, keep, or use elsewhere the extra allowances they receive under the program.

Large dirty plants emitted 12.9 million tons per year of SO_2 in 1985. Under the Administration bill, they will be limited to 5.1 million tons after 2001.

Clean Plants and Small Plants. Power plants producing less than 75 megawatts of electricity, and plants emitting at below 1.2 lbs/mmBtu are not given allowances or capped under the Administration proposal. However, these sources are subjected to an emission rate ceiling equal to their 1985 emission rate. This is the so-called "class of 1985."

Both clean plants and small plants are expected to increase their emissions under the Administration bill. EPA models predict clean-plant emissions rising from 2.5 million tons per year in 1985 to about 3.0 million tons per year in 2001. In addition, clean plants that come on line after 1985 but before the enactment of the legislation are expected to emit an extra 0.3 million tons per year in 2001. The models predict that emissions from small dirty plants (plants producing less than 75 megawatts but emitting at a rate above 1.2 lbs./mmBtu) will drop somewhat, from 0.6 million tons per year in 1980 to 0.4 million tons per year in 2001.

New Utility Sources. All new fossil-fueled steam production units are required to secure emission allowances before they can operate. EPA estimates that a new 500 megawatt plant achieving 95 percent emission control will need about 4,000 allowances if it burns high-sulfur coal or 1,000 allowances if it burns low-sulfur coal.

Nonutility Pollution Sources. Nonutility sources of sulfur dioxide pollution, such as industrial boilers, refineries, and smelters, are not covered under the Administration proposal. According to EPA, these sources are assumed in the Administration bill to emit at one million tons below 1980 levels by year 2000. However, no control requirements, cap, or allowance system is established for such sources.

Voluntary Opt-In to the Allowance System. Sources in categories above that are not initially part of the allowance system are permitted to opt in and receive allowances if they subject themselves to a cap based on their 1985 emission rates and their 1985 to 1987 operating levels. They can sell or trade allowances if they reduce pollution below 1985 levels. These sources cannot sell their allowances when they shut down.

D. The NO_x reduction program

The Administration bill does not use an allowance system to reduce NO_x emissions. Instead, it directs EPA to establish emission rates for power plants that will bring NO_x emissions two million tons below projected year 2000 emission levels. The emission rates are to be based on the rates achievable through the use of low-NO_x burners. The bill does allow sources to opt into the allowance system voluntarily (see discussion above), in which case sources can trade NO_x allowances for SO_2 allowances and vice-versa on a ratio of 1.5 NO_x allowances per 1.0 SO_2 allowance.

The Administration proposal would actually allow NO_x emissions to increase from current levels. The Office of Technology Assessment predicts that NO_x emissions will grow by three million tons by 2000, more than offsetting the reductions to be

achieved under the Administration proposal.

IV. IMPACTS OF THE ADMINISTRATION PROPOSAL

A. Health and environmental benefits

The health and environmental impacts of acid rain are summarized in the last issue of Clean Air Facts. They include substantial health costs (perhaps as high as $432 billion per year, according to one estimate); the acidification of over a thousand lakes and thousands of miles of streams; widespread damage to high-elevation red spruce forests; impaired visibility; and erosion of man-made building materials (causing $2 billion in damages in the East annually).

These adverse impacts will be substantially reduced by the ten-million-ton reduction in SO_2 emissions called for under the Administration bill. Although precise quantification is impossible, EPA has concluded that the economic and other benefits of the SO_2 reductions far outweigh their costs.

B. Economic costs

The Administration estimates that its acid rain program will cost $3.5 to $4.1 billion per year when fully implemented. By 2010, it estimates the program will cost $2.5 to $5.3 billion, depending on the level of growth in electricity demand.

The utility industry (through the Edison Electric Institute) has estimated higher costs, ranging from $4.5 to $5.5 billion upon full implementation in 2001 to $5.0 to $7.1 billion by 2010. The industry estimate is higher because it assumes higher costs for scrubbing and fuel switching, no least-emissions dispatching (e.g., running a low-emissions unit more than a high-emissions one), and very limited trading of emission allowances (not trading between utility systems). According to the Energy Information Administration, the industry calculations "limited compliance options for utilities, forcing them to add more scrubbers than might be necessary otherwise."

C. Rate impacts

Nationally, EPA estimates that electricity rates would increase 1% to 2% under the Administration's acid rain bill. EPA estimates that a rate increase greater than 5% would be faced in only one state—West Virginia (with an increase of 6.0%).

By contrast, utility industry estimates are several times greater. The industry predicts maximum state rate increases of 16% to 20%. According to the Energy Information Administration, however, the industry estimates are based on assumptions of "high compliance costs" and "low demand growth," which are unlikely to occur in tandem because low demand reduces compliance costs as fewer new plant emissions would need to be offset.

In general, the states and utility systems facing the greatest rate increases have electricity rates below the national average, because they use inexpensive high-sulfur coal for fuel. EPA estimates that electricity rates in the five hardest-hit states (Ohio, West Virginia, Indiana, Missouri, and Kentucky) will still remain below the national average after full compliance with acid rain controls.

D. Coal market and coal-mining employment impacts

The market-based approach of the Administration proposal allows utilities to pursue lowest-cost compliance strategies. For many utilities, the lowest-cost strategy will be to switch fuels from high-to low-sulfur coal. EPA predicts that the Administration bill will produce a significant production shift away from high-sulfur coal, which is mined principally in Northern Appalachia and the Midwest, to low-sulfur coal, which is mined in Central Appalachia and the West. The shift is estimated to be 109-119 million tons, about one third of U.S. coal production.

EPA estimates that the Administration bill will result in a net increase in coal-mining jobs compared to no-legislation forecasts. However, it also estimates that there will be a substantial shift in employment from high-sulfur coal regions to low-sulfur regions, predicting that 15,000 to 17,000 jobs will shift between regions.

V. CRITICISM OF THE ADMINISTRATION PROGRAM

The most prominent objections to the Administration's acid rain proposal are described below. (This is not intended to be an exhaustive list of all complaints.)

A. Environmental concerns

No Real NO_x Reductions. While the Administration's proposal achieves significant reductions in SO_2 emissions, it actually allows an increase in NO_x emissions. NO_x emissions account for one-third of the acid rain nationally and contribute to ozone formation and particulate pollution. Environmental groups often say that the failure to achieve real NO_x reductions is the single biggest flaw in the acid rain program. They support legislation that will reduce NO_x emission by four million tons below 1980 levels.

No Regulation of Industrial Sources. Environmentalists argue that both utility and industrial SO_2 emissions should be regulated. The Administration bill, however, assumes that SO_2 emissions from industrial sources will be one million tons below 1980 levels in year 2000, but contains no provisions guaranteeing that these reductions are actually achieved and maintained. Environmentalists say that the bill should be strengthened through provisions that insure that at least this level of reductions occurs.

No Cap on Clean Plants in the West. Environmentalists worry that the clean plants, which are subject only to rate limitations, can increase their emissions indefinitely. This could undermine the projected emission reductions—and poses special problems for scenic vistas in the West. Environmentalists maintain that emissions from clean plants—especially those in the West—should be capped in much the same manner as emissions from the dirty plants.

Too Much Delay. Finally, environmentalists argue that the Administration bill gives power plants too much time to reduce SO_2 emissions. They want all reductions to be achieved by 2000—not 2001—with no extension for clean-coal technologies.

B. Utility concerns

The Limited Availability of Allowances in "Clean States". Utilities in some clean states have complained that they are initially allotted relatively few allowances, and have to look elsewhere to secure those needed to allow new source growth. Clean sources argue that they are penalized for being clean, pointing out that heavily polluting sources will be awarded large numbers of allowances, many of which could be freed up relatively easily to provide for new source growth. Although EPA predicts that large numbers of allowances from high pollution sources will be available at reasonable costs, there is a fear among some in clean states that allowances will not be available because high polluting states will hoard them to accommodate future new source growth within their own states.

The "Class of 1985". Other complaints from clean-state utilities have focused on the emission rate limit for clean sources, which are not subject to the cap. Clean sources argue that being tied to a single emission rate, their 1985 emission level, is unfair and inflexible. They note that capped sources can emit at any rate as long as the pollution total is within the cap. Also, some argue that choosing 1985 as the benchmark for establishing an emission rate is arbitrary and inequitable.

Dual-Fueled Boilers. A special version of the class of 1985 complaint is the concerns of gas-fueled utilities that on occasion, when gas supplies are low or gas prices are high, burn oil. Fuel oil produces much higher levels of sulfur dioxide pollution than natural gas. Because all such sources operate at an emission level below 1.2 lbs., they are members of the "class of 1985." As it turns out, 1985 was a year of ample gas supplies. Dual-fueled utilities are worried that, if they are tied to their 1985 emission levels, they will not have the flexibility to switch to oil if there should be an interruption in gas supplies or gas prices should rise steeply.

C. "Cost-sharing"

One of the most controversial issues in the clean air debate is the subject of "cost-sharing." Cost-sharing refers to electricity taxes, emissions fees, or other methods of raising funds to subsidize clean-up efforts in the states targeted for the greatest emission reductions.

The Administration bill does not include any direct cost-sharing. Midwestern states, which have the highest emission rates and the biggest clean-up obligations, argue that this is unfair. They say that although nine Midwestern states are responsible for only 51% of the national SO_2 inventory, they will achieve 67% of the national reduction in SO_2 emissions. They seek compensation for what they perceive to be their disproportionate clean-up burden.

"Clean" states disagree. They maintain that they should have a lesser clean-up obligation, because they have already reduced their emissions. They point out that a clean state like New Mexico has installed scrubbers on all 11 of its powerplants other than one small unscrubbed plant), whereas a "dirty" state like Ohio has scrubbed only one of its 28 powerplants. In fact, clean states think that the high-polluting states fare too well under the Administration bill already. They say that the dirty utilities are rewarded for being dirty, because they have to reduce their emissions only to a 1.2 lbs/mmBtu rate, while clean utilities are frozen at emission rates well below that level.

[From the Clean Air Facts, Apr. 12, 1990]

FULL COMMITTEE MARKUP OF H.R. 3030

The House Energy and Commerce Committee completed its consideration of H.R. 3030, the Administration's clean air bill, on April 5, 1990, after a four-week markup. This issue of Clean Air Facts summarizes the markup and provides a preview of the issues likely to be debated on the House floor.

The Committee adopted compromises that strengthened H.R. 3030 in three key areas: requirements for state plans to fight urban smog; regulation of toxic emissions; and control of acid rain. The Committee also endorsed the compromise on tailpipe emissions reached last fall in the Health and the Environment Subcommittee. These compromises resolved highly controversial

disputes and received unanimous or nearly unanimous bipartisan support.

A consensus was not reached, however, on several other important issues. These outstanding issues include requirements for the use of clean-burning alternative fuels in motor vehicles, protection of visibility in national parks, and preservation of the stratospheric ozone layer from ozone-depleting chemicals. These matters are likely to be decided on the House floor.

Committee members pledged to continue negotiating on several additional issues, including permitting procedures, enforcement provisions, control of emissions from oil and gas activities on the outer continental shelf, and accidental releases of toxic emissions. If consensus compromises cannot be developed on these issues, they too will be resolved on the House floor.

I. THE MARKUP VEHICLE

The Committee used the Administration's clean air proposal (H.R. 3030), as amended by the Health and the Environment Subcommittee, as the markup vehicle. The subcommittee amendments left most of the bill intact except for title II, which establishes controls on mobile sources. As described in detail in issue 15 of Clean Air Facts, last fall the Health Subcommittee reached a compromise that significantly strengthened the regulation of conventional gasoline-powered vehicles. The Subcommittee also narrowly passed a controversial amendment that substantially weakened the clean-fuel provisions originally in H.R. 3030.

II. TITLE I: REQUIREMENTS FOR STATE IMPLEMENTATION PLANS

Title I of H.R. 3030 defines the responsibilities of states to achieve healthful air. By a 38 to 2 vote, the Committee adopted a substitute to title I of H.R. 3030 offered by Reps. Swift (D. Wash.) and Eckart (D. Ohio). The Swift/Eckart amendment significantly strengthened the provisions of H.R. 3030, but is not as stringent as H.R. 2323, the Waxman/Lewis bill.

Key elements of the Swift/Eckart amendment are summarized below:

Revised area classifications.—The Swift/Eckart amendment refined the classifications for ozone nonattainment areas by creating a new "extreme" category for Los Angeles, which has the nation's worst air pollution. New attainment deadlines were established for the five area classifications as follows: marginal areas (3 years); moderate areas (6 years); serious areas (9 years); severe areas (15 years, with an additional 2 years for especially polluted severe areas); and extreme areas (20 years).

Graduated control program for stationary sources.—The Swift/Eckart amendment established a system of graduated controls for ozone nonattainment areas under which heavily polluted areas have to regulate more sources (and do so more stringently) than less polluted areas. Under this system, marginal and moderate areas must regulate stationary sources with emissions of volatile organic compounds (VOCs) of 100 tons or more per year; serious areas must regulate sources of 50 tons or more; severe areas must regulate sources of 25 tons or more; and extreme areas must regulate sources of 10 tons or more. In addition, new source review requirements are stiffened in the more heavily polluted areas.

The amendment establishes an identical graduated control program for sources of nitrogen oxide emissions, which are also a major precursor of ozone. However, the amendment allows EPA to waive NO_x controls in any area in which local atmospheric conditions would make such controls counter-productive.

Transportation controls.—The Swift/Eckart amendment establishes a system of graduated transportation control measures, much like the system of graduated controls for stationary sources. It requires all nonattainment areas to adopt transportation plans that help reduce air pollution levels. In addition, in the case of seriously polluted areas, it requires states to report on vehicle congestion and use every three years and to adopt new transportation control measures (TCMs) when levels of congestion or vehicle use exceed expectations. And in the case of severe and extreme areas, it requires that states use all reasonably available TCMs and at a minimum offset any emissions increase due to increases in congestion or vehicle use.

Milestones.—The amendment adds a new "milestone" program to H.R. 3030. Under this program, all serious, severe, and extreme ozone nonattainment areas must evaluate every three years whether they remain on track toward timely achievement of the air quality standards. When an area fails to achieve the required level of emission reductions, the area must adopt additional control measures or, alternatively, "bump up" into a higher classification. The amendment also eliminates the "cost waiver" in H.R. 3030, which would have exempted areas that fail to meet a milestone from further control efforts if EPA deemed such efforts too costly.

Mandatory sanctions and "FIPS".—H.R. 3030 established very tough sanctions (e.g., a ban on new drinking water hookups) for states that fail to submit or implement state pollution control plans, but it undermined the deterrence effect of the sanctions by making their application discretionary. The Swift/Eckart amendment establishes less onerous sanctions (specifically, a ban on new highway funds and a 2-to-1 offset ratio for new sources), but makes their application mandatory.

The amendment also restores the requirement in current law that EPA develop a federal implementation plan (FIP) when a state fails to submit or implement an adequate one of its own. H.R. 3030 had made this safeguard discretionary.

Federal controls on coatings and solvents.—The amendment tightens requirements for federal regulation of "consumer and commercial products," such as paints, coatings, and solvents. Emissions from these products account for over 25% of the smog-forming volatile organic compound emissions in most nonattainment areas. Under the Swift/Eckart amendment, EPA must regulate all of these products within four years. A second round of regulation, based on the best available controls, must be completed within 11 years for important source categories.

Stronger interstate transport provisions.—The Swift/Eckart amendment includes stronger provisions for emission controls in interstate ozone transport regions, as sought by many Northeast and Mid-Atlantic states. It establishes an interstate ozone transport region stretching from Washington, D.C., to Maine. Within this region, it requires regulation of 50-ton stationary sources enhanced inspection and maintenance, and "stage II" (at-the-pump) controls on refueling emissions at service stations or other equivalent measures.

Stronger carbon monoxide program.—The Swift/Eckart amendment strengthens the program for control of carbon monoxide emissions in carbon monoxide nonattainment areas. Among other measures, it requires more nonattainment areas to use enhanced inspection and maintence, establishes a system of graduated transportation controls, and requires areas with significant stationary source emissions of carbon monoxide emissions to adopt stationary source controls.

Stronger "PM-10" program.—The Swift/Eckart amendment strengthens the program for control of emissions of small particulates (called "PM-10") in areas in nonattainment for this pollutant. Among other measures, it requires the regulation of precursors to PM-10, such as sulfur dioxide and nitrogen oxides, unless such regulation is shown to be unnecessary, and it lowers the threshold for regulation of stationary sources of PM-10 from 100 tons per year to 70 tons per year in areas with serious PM-10 pollution problems.

III. TITLE: REGULATION OF MOBILE SOURCES

Title II of H.R. 3030 establishes requirmeents for the control of emissions from mobile sources such as cars and trucks. Mobile sources are the largest single source of air pollution in the country. They cause 50% of urban ozone pollution, 50% of nationwide toxic emissions, and up to 90% of carbon monoxide pollution.

During the markup, the Committee voted on several amendments to the title II provisions.

A. Conventional gasoline-powered vehicles

Unlike the clean-fuel and warranty issues (discussed below), there was no dispute in the Committee concerning the regulation of conventional gasoline-fueled vehicles.

During the markup in the Health and the Environment Subcommittee last fall, the subcommittee reached a unanimous compromise on the provisions in H.R. 3030 that pertain to conventional vehicles. Among other things, the compromise tightened tailpipe standards in two phases, required the use of onboard canisters to capture refueling emissions, made controls on evaporative emissions and onboard diagnostics mandatory, extended the durability requirements of emission controls to 100,000 miles, and established a new program to control toxic emissions from motor vehicles. (See issue 15 of Clean Air Facts for a fuller discussion.) The provisions of the subcommittee compromise were adopted without amendment by the full committee.

B. Clean fuels

The most controversial amendments considered during the committee deliberations concerned the role of clean or "alternative" fuels (such as natural gas, ethanol, methanol, and electricity) in motor vehicles. During subcommittee markup, these provisions were weakened significantly from the Administration's original bill. Attempts to restore a strong clean fuels program failed in the full committee.

Reformulated gasoline.—Rep. Richardson (D. N.M.) offered an amendment that would have required oil companies to clean up ("reformulate") the gasoline that they sell in any serious, severe, or extreme nonattainment area. This amendment would have lowered ozone-forming volatile organic emissions from all motor vehicles, including the oldest vehicles with the highest emission rates, by 15%. This would have produced areawide emission reductions of 7.5%—far more than almost any other control measures. The Richardson amendment would

have also significantly reduced toxic emissions. However, the amendment lost on a 22 to 21 vote.

Clean fuels in fleet vehicles.—Reps. Tauzin (D. La.) and Synar (D. Ok.) offered an amendment to strengthen the requirements for the use of clean fuels in centrally fueled fleets. This amendment would have required fleets of light- and heavy-duty vehicles in serious, severe, and extreme nonattainment areas to meet stringent performance standards. However, the Tauzin/Synar amendment was defeated on a 24 to 19 vote.

The President's passenger car program.—The President's original bill mandated the production of 1 million clean-fuel vehicles for the general passenger car market each year. However, this provision was deleted during the Health Subcommittee markup on a 12 to 10 vote.

During the full Committee markup, Rep. Richardson announced that he will offer an amendment on the floor to restore the production mandate in the President's original clean-fuel program.

The Fields/Hall amendment.—The full Committee adopted an amendment offered by Rep. Fields (R. Tex.) and Hall (D. Tex.) in lieu of the Richardson and Tauzin amendments. This amendment replaced most of the clean-fuel provisions adopted during the Subcommittee markup.

The Fields/Hall amendment significantly weakens the urban bus program in the bill. In comparison to H.R. 3030 as introduced, it delays the date on which the bus program is fully effective by two model years (to MY 1996). It provides that during the first two years of the program, "clean-fuel" urban buses can emit diesel particulates at a rate 250% higher than current law requires for all buses. And it requires that only 30% of the new urban buses achieve emission levels comparable to those achievable with natural gas, ethanol, or methanol (versus 100% in H.R. 3030 as introduced).

The Fields/Hall amendment also significantly weakens the passenger car program in the bill. In comparison to H.R. 3030 as introduced, the Fields amendment does not require automakers to produce one million clean-fuel vehicles each year for sale in the nine most polluted cities. Instead, it requires only that the new cars sold in the nine cities subject to the program be marginally cleaner than cars sold elsewhere (10% cleaner through 1999 and 25% cleaner thereafter). These standards can be met by conventional gasoline vehicles running on reformulated gasoline, thus eliminating the prospect that automakers will develop a new generation of very clean vehicles.

The Fields/Hall amendment strengthened marginally the fleet requirements in the bill reported from the Health Subcommittee. However, the fleet requirements in the amendment remain substantially weaker than those proposed in the Tauzin/Synar amendment. Key differences between the amendments involve the scope of the program (13 cities in the Fields amendment versus 40 cities in the Tauzin/Synar amendment), vehicles covered (light-duty vehicles in the Fields amendment versus light- and heavy-duty vehicles in the Tauzin/Synar amendment), and vehicle performance standards (the 75% reduction in passenger car VOC emissions called for in both amendments can be waived if "appropriate" in the Fields amendment but not in the Tauzin/Synar amendment).

C. Repairs and warranties

The full Committee considered two issues relating to motor vehicle repairs and warranties. By a unanimous vote, the Committee voted to require automakers to standardize access to the information stored on onboard diagnostic systems. This amendment insures that the independent motor vehicle "aftermarket" (i.e., service stations and repair shops) can perform emission-related repairs as effectively as dealers.

The Committee also approved a Dingell amendment to reduce the warranty on most emission controls from 5 years/50,000 miles in current law to 2 years/24,000 miles. Because the warranty coverage is diminished, this amendment increases significantly the number of instances in which consumers, not the vehicle manufacturers, will be responsible for replacing faulty emissions controls. (The burden on consumers is further increased because the Swift/Eckart amendment to title I raises the liability of consumers for emission-related repairs from $75 to $450.) An amendment to restore strong warranty provisions is likely on the House floor.

IV. TITLE III: REGULATION OF TOXIC EMISSIONS

The Committee made substantial progress in title III of H.R. 3030, resolving most outstanding issues related to emissions of hazardous air pollutants.

A. Routine emissions

By a unanimous vote, the Committee passed a compromise amendment offered by Rep. Waxman (D. Cal.) that addressed regulation of routine (as opposed to accidental) releases of hazardous air pollutants. The compromise significantly strengthened the provisions of H.R. 3030, but fell short of those in H.R. 2585 (the Leland/Molinari bill). Key provisions of the compromise are summarized below.

Regulation of 100% of major sources.—H.R. 3030 required EPA to regulate only 50% of the "major sources" of hazardous air pollutants (sources that emit 10 tons or more per year of a hazardous air pollutant). The Waxman amendment requires EPA to regulate all categories of major sources. The only exception to this rule in the case of sources with carcinogenic emissions is that EPA may exempt a source category from regulation if it determines that no source in the category presents a lifetime risk of cancer greater than 1 in 1 million to any person.

Regulation of most area sources.—Toxic emissions from "area" sources (those sources smaller than major sources) are collectively responsible for as many cancer cases as the emissions from major sources. Under H.R. 3030, regulation of these sources was entirely discretionary. The Waxman amendment requires EPA to regulate 90% of the area source emissions of each hazardous air pollutant. EPA may elect to establish controls based on "generally available control technology" in lieu of the more stringent controls based on "maximum achievable control technology" that would apply to major sources.

No "bright-line" residual risk standard.—The technology-based standards required for major and area sources under the amendment may not eliminate all health risks from toxic emissions. To address the "residual risks" that may remain, the amendment requires EPA to report to Congress on legislative alternatives within eight years. If Congress does not act on the agency recommendations, existing law (which requires "protection of the public health with an ample margin of safety") will remain in effect. The amendment does not incorporate the bright-line one-in-one-million standard of acceptable residual risk proposed in H.R. 2585.

Narrower alternative emission limitations.—H.R. 3030 allowed sources subject to emission standards to comply with alternative emission limitations upon a showing that the source poses only a "negligible risk." In the case of sources with carcinogenic emissions, the amendment restricts this provision to instances where the source establishes to the permitting authority that the alternative limitations will protect the most exposed person from a lifetime cancer risk greater than 1 in 1 million.

B. Protection of the Great Lakes and Chesapeake Bay

Rep. Sikorski (D. Minn.) offered an amendment to increase the protection of the Great Lakes from airborne deposition of toxic chemicals. This amendment shortened the time for EPA promulgation of regulations from five years to three years and explicitly required EPA to consider effects due to bioaccumulation and indirect exposure pathways. The amendment also extended similar protection to the Chesapeake Bay. The Sikorski amendment passed unanimously.

C. Accidental releases

Toxic emissions can escape into the atmosphere by accidental as well as routine releases. In fact, between 1980 and 1987, there were more than 11,000 accidental toxic releases resulting in more than 300 deaths and more than 10,000 injuries. Both Rep. Richardson (D. N.M.) and Rep. Barton (R. Tex.) offered amendments to strengthen the accidental release provisions of H.R. 3030. However, both amendments were withdrawn after the members agreed to try to work out the differences. No final agreement was reached during the markup, leaving the accidental release issue pending for resolution before or on the House floor.

V. TITLE V: ACID RAIN

The Committee passed a substitute to the acid rain title offered by Rep. Sharp (D. Ind.) by a 39 to 4 vote. The substitute achieves the same level of emission reductions promised by H.R. 3030, while striking an accommodation between the conflicting interests of "clean" and "dirty" utilities in the allocation of pollution allowances. (See issue 17 of Clean Air Facts for a detailed discussion of acid rain provisions of H.R. 3030.)

A summary of the key provisions of the Sharp substitute follows:

Expansion of the allowance system.—H.R. 3030 establishes an allowance trading system to control sulfur dioxide (SO_2) emissions from large "dirty" powerplants (i.e., plants with SO_2 emissions greater than 1.2 lbs/mmBtu and a capacity greater than 75 MWe). In the case of other plants, however, the bill limited their emission rate to their 1985 emission rate, but did not subject the plants to individual tonnage caps under the allowance system.

The Sharp amendment eliminates the dual system of regulation. It expands the allowance system to cover all electric utility powerplants. This change enhances the effectiveness of the allowance program by eliminating the potential for utilities to shift emissions from capped to uncapped plants. At the same time, it gives the rate-frozen plants the flexibility to increase their emission rates, so long as the plants meet their annual tonnage limitations.

Extra allowances for clean utilities.—H.R. 3030 contains a "greenfield cap," which provides that new powerplants must purchase emission offsets before starting operations. This poses a potential problem for existing

utilities with low emission rates. Utilities that are already clean could find it difficult to extract significant emission allowances from their existing units to transfer to new units.

The Sharp amendment preserves the greenfield cap, but provides relief to clean utilities by increasing their available pool of allowances. Currently, clean utilities emit approximately 2.5 million tons of SO_2 annually. Under the Sharp amendment, these utilities will be given nearly 3.5 million tons of allowances. This 1 million-ton cushion provides a 40% growth allowance for the clean utilities. (The growth cushion comes from several sources, including expansion in capacity assumed under H.R. 3030 (0.5 million tons), requirements that small high-emitting plants reduce their SO_2 emissions to a 1.2 lbs/mmBtu rate (0.25 million tons, and a direct transfer of allowances from big high-emitting plants (0.18 million tons).)

Fixes for the "Class of '85".—H.R. 3030 allocates allowances based on emission rates in 1985 and fuel consumption during 1985-87. For some utilities (the "Class of '85"), these periods are not representative of normal operating conditions. For instance, for some utilities, emission rates were abnormally low in 1985. The Sharp amendment adjusts the allocation formulas in H.R. 3030 to more closely reflect normal operating conditions for utilities facing a Class of '85 problem.

Incentives for scrubbing.—The Sharp amendment contains several incentives intended to encourage utilities to reduce their emissions by installing "scrubbers" on plants that continue to burn high-sulfur coal, rather than by switching fuels. The incentives include a one-year delay in the compliance date for utilities that scrub (with the lost tonnage to be recouped by the utility over the next four years) and bonus allowances awarded to utilities that scrub their emissions to a rate below 1.2 lbs/mmBtu (with the lost tonnage to be recouped by lowering every utility's emission rate by 6%). These provisions benefit mine workers and companies selling high-sulfur coal, who fear that H.R. 3030 could cause many utilities to lower emissions by switching from high-sulfur coal to low-sulfur coal, thus jeopardizing the future of high-sulfur coal mines.

The "Oxley auction".—The Sharp amendment includes a mechanism for auctioning allowances designed by Rep. Oxley (R. Ohio). Under the "Oxley auction," all utilities contribute 5% of their annual allowances to be auctioned by EPA each June. The proceeds of the auctions are then redistributed pro rata to the utilities. The intent of the auction is to insure that a market in allowances is created.

Increased NO_x reductions.—The Sharp amendment requires EPA to reduce NO_x emissions from utilities by at least 2.5 million tons below the levels predicted in 2000 (versus a 2.0 million ton reduction under H.R. 3030).

Incentives for conservation and renewable energy.—The Sharp amendment includes several incentives for conservation and renewable energy. The amendment prohibits utilities in a state from trading SO_2 emission reductions against NO_x reductions (or vice-versa) unless the state has adopted ratemaking procedures that reward energy conservation. The Sharp amendment also incorporates provisions promoted by Reps. Markey (D. Mass.) and Moorhead (R. Cal.) that transfer allowances to utilities that undertake energy conservation or develop renewable energy resources in advance of regulation under the acid rain title.

VI. TITLES IV AND VI: PERMITTING AND ENFORCEMENT

Titles IV and VI 3030 contain the permitting and enforcement provisions of the bill. Although highly technical, these titles are the "nerve center" of the legislation. They translate the statutory mandates set our in other titles into site-specific requirements for individual sources and insure the enforceability of those requirements.

To expedite the bill, the Committee agreed to defer negotiations over titles IV and VI to the period between the Committee markup and floor consideration. If agreements cannot be worked out during this period, controversial votes on these titles can be expected during the debate on the House floor.

The Committee did adopt two amendments to title IV, the permitting title. By voice vote, it adopted an amendment offered by Reps. Boucher (D. Va.) and Wyden (D. Ore.) to establish special permitting procedures for small businesses. It also adopted by voice vote an amendment offered by Rep. Bliley (R. Va.) that eliminated EPA's authority to veto individual state permits.

VII. MAJOR UNRESOLVED ISSUES

In addition to the unresolved issues mentioned above, which generally involve strengthening provisions already in H.R. 3030, there are three additional major clean air issues likely to be debated on the House floor. These issues represent clean air problems not addressed in H.R. 3030.

A. Protection of national parks

Man-made pollution in the form of pervasive "regional haze" impairs scenic vistas in the national parks more than 90% of the time. Nevertheless, despite a congressional mandate in the 1977 Clean Air Act Amendments, EPA has never acted to protect in the national parks and other clean air areas from this haze.

Rep. Wyden announced during the full Committee markup that he will offer an amendment on the House floor to force EPA to regulate regional haze and protect visibility in the national parks.

B. Ozone depletion

While ozone at ground level, where people can breath it, is a dangerous pollutant, ozone in the upper atmosphere is vital to life on earth, because it shields the planet from ultraviolet radiation, Rep. Bates announced during the markup that he will offer an amendment on the House floor to phase-out the production of chemicals such as CFCs and halons that deplete the ozone layer.

C. Air pollution on the Outer Continental Shelf

Oil and gas activities on the outer continental shelf can cause tremendous onshore air pollution problems. In fact, a single uncontrolled facility can emit more pollution than 100,000 automobiles. An amendment is likely to be offered on the House floor that would require EPA to regulate OCS facilities in the same manner as nearby onshore facilities.

[From the Clean Air Facts, May 3, 1990]

TITLE IV AND TITLE VI OF H.R. 3030: PRESIDENT BUSH'S PERMITTING AND ENFORCEMENT PROPOSALS

H.R. 3030, "The Clean Air Act Amendments of 1990," deals with three major air pollution problems. Titles I and II focus on smog, Title III on hazardous air pollutants, and Title V on acid rain.

The Energy and Commerce Committee reached broad compromises on all three issues. Those agreement, which passed by overwhelming margins, create a generally sound and effective air pollution control program.

Central to this program, however, is an assumption that the legislation will contain effective permitting and enforcement provisions. Title IV of H.R. 3030 establishes a new permitting program for the Clean Air Act; Title VI clarifies the law's enforcement provisions. If either title proves ineffective, then the smog, toxic air pollutant, and acid rain programs will be seriously hindered.

For example, changes made to the enforcement title leave large sections of the Act, including provisions that control the release of CFCs to prevent ozone depletion, unenforceable in court. Moreover, EPA's central compliance tool—the Administrative Enforcement Order—is rendered ineffective and unenforceable.

Titles IV and VI received little attention during the Energy and Commerce Committee's mark-ups. Permitting and enforcement amendment will, however, be offered on the House floor. Accordingly, this Fact Sheet will describe the two titles and the problems that the Waxman-Bryant Amendment will seek to address.

I. TITLE IV: PERMITS

A. Background

Title IV establishes a comprehensive program for permitting stationary sources of air pollutants. This title, which is patterned after the Clean Water Act's permitting program, should strengthen the implementation and enforcement of the Clean Air Act. It is potentially H.R. 3030's most important procedural reform because it can translate the bill's abstract standards into concrete requirements for individual facilities.

Although the current Clean Air Act has no permit provisions, most other federal environmental laws—including the Clean Water Act, the Resource Conservation and Recovery Act, and the Federal Insecticide, Fungicide, and Rodenticide Act—require permits. And a substantial majority of the states (about 35 in all) already require operating permits for most air pollution sources.

An effective permit program can clearify and make more enforceable a source's pollution control requirements. Under existing law, pollution control obligations may be scattered throughout many obscure and ambiguous state and federal regulations. In many cases, sources are not required to submit periodic complicance reports to EPA or the states. It is much easier for a source to understand its obligations, and for the state to enforce them, if all of a source's obligations are combined into one permit. This is also the reason why sources should be required to file periodic reports that monitor compliance.

An effective permit program can make sources more accountable for their emissions, and can relieve much of the administrative burden from state and local agencies. It is a ready vehicle for states to take over administration, subject to federal oversight, of the significant parts of the air toxics and acid rain programs. In addition, by requiring that both the permit and the periodic compliance reports be publicly available, interested citizens will be able to review and help enforce a source's obligations under the Act.

B. How the title IV permit program works

Under H.R. 3030, states would be required to submit to EPA comprehensive permit programs for regulating stationary sources. The permitting requirements would extend to sources that are subject to new source performance standards, emission standards for hazardous air pollutants, requirements for preventing significant deterioration (PSD) of air quality, nonattainment new and existing source review, and acid deposition controls under Title V. They also apply to all sources of air pollution emitting over 100 tons a year.

It is illegal for any of the affected sources to violate the terms of a permit or to operate without a permit after any permit program approved or promulgated by EPA is in effect. If a state fails to submit a permit program, EPA can apply sanctions and must promulgate a federal permit program for the state.

The minimum elements of permit programs, which are to be set by EPA, include requirements for adequate state authority and permit fees. The permit fees will be used ot recoup all direct and indirect costs of administering the air pollution control program related to permitted sources.

In addition, states must have the ability to modify or terminate permits "for cause." "Cause" would include situations where the source failed to comply with a permit term, misrepresented a material fact in a permit application or report, or substantially endangered the public health or welfare.

Once a permit program is approved, sources that are required to obtain permits must submit timely and complete permit applications. In issuing permits, state agencies must set forth inspection, entry, and adequate monitoring and reporting requirements to assure compliance with regulatory requirements. Affected sources must also submit periodic compliance certifications.

EPA may object to proposed permits if they fail to meet any Clean Air Act requirements. If a state agency does not adequately respond to the objection, EPA can issue or deny the permit on its own authority.

Title IV contains special provisions to deal with small sources, temporary sources (e.g., asbestos demolition contractors), and numerous similar sources within a geographical area. This last provision is designed to reduce the administrative burden of permitting large numbers of similar sources, which may be small individually, but which in the aggregate require control.

C. The Waxman-Bryant Amendment to Title IV

The members of the Energy and Commerce Committee agreed to try to craft a compromise Title IV Amendment before H.R. 3030 reaches the House floor for consideration. If a consensus is not reached, several permitting amendments may be offered. The Clean Air Working Group, for instance, has indicated it would like to limit the scope of the permit program, reduce EPA's enforcement role, and restrict the certification and fee provisions, Other furdamental weakening changes may also be proposed.

These changes would not only impair the effectiveness of the new smog, toxics, and acid rain titles, but would put enormous industry pressure on state and local governments as they administer the permit program. If adopted, state agencies could find themselves mired in endless filings and exemption requests. The National Clean Air Coalition and other environmental and public health organizations strongly oppose any weakening amendments to the President's proposal.

Congressmen Waxman and Bryant will also offer a permitting amendment if no agreement is reached. The Waxman-Bryant Amendment is not an attempt to rewrite Title IV. The President's permit program is basically a sound approach to implementing the Clean Air program. There are, however, three major defects in the title that need to be fixed. These problems are summarized below.

Problem 1: Title IV Creates a "Permit Shield" to the Clean Air Act's Requirements

An obscure provision in Title IV could transform the permit from a helpful enforcement tool into a shield that violators can use to bar all enforcement actions. It provides that sources complying with their permits cannot be found in violation of any Clean Air Act requirement, even if the source is violating provisions of the Act that are not addressed in the permit. A source could, for example, violate H.R. 3030's toxic air pollutant requirements with impunity if it has a valid permit for smog-causing pollutants. The permit shield also prevents enforcement of new regulations that are adopted after the permit is issued.

The Waxman-Bryant Amendment will eliminate the permit shield. The Amendment would, however, allow sources that comply with a permit to be completely protected against enforcement actions for violating requirements that are specifically addressed in the permit.

Problem 2: EPA has Unlimited Discretion to Waive Permit Requirements

Title IV allows EPA to exempt an unlimited number of sources from the permit requirements if it finds that an exemption would be "consistent with the purposes of the Act." This effectively makes all permitting requirements discretionary.

The Waxman-Bryant Amendment will make the permit program mandatory for all major sources of air pollution, but retain (and in fact increase) EPA's discretion to tailor permit requirements for small sources.

Problem 3: Permits Can be Postponed Indefinitely

Title IV lacks any deadline for final action on permit applications. In effect, this allows the permitting agency to delay issuing permits indefinitely, thereby frustrating the intent and effectiveness of the whole permit system.

The Waxman-Bryant Amendment will require the state or federal permitting agency to act on permit applications within nine months. To avoid an initial logjam of applications, it will phase-in this requirement in the program's early years.

II. TITLE VI: ENFORCEMENT

A. Background

As originally introduced, H.R. 3030's enforcement provisions are intended to incorporate into the Clean Air Act some of the flexible enforcement authorities that are contained in other, more recently amended environmental statutes. However, a seemingly technical change in an amendment adopted at subcommittee adds a provision to the bill that significantly weakens current law by eliminating existing authority to enforce important provisions of the Clean Air Act.

The new and refined tools in the original H.R. 3030 can make EPA and state agencies more effective in implementing the law. Title VI makes two basic improvements in the enforcement provisions: (1) it gives EPA new authority to take enforcement action administratively, and (2) it stiffens criminal sanctions through longer imprisonment, higher fines, and double sanctions for repeate violations.

B. Administrative Enforcement Provisions

Administrative enforcement authority is an important adjunct to trraditional civil and criminal enforcement. It enables EPA to resolve many violations without litigation, which means faster and less costly enforcement actions. The most significant new administrative enforcement provisions in H.R. 3030 include:

**Administrative Compliance Orders*—EPA can issue administrative compliance orders, so that the Agency can resolve violations administratively while avoiding long extensions of applicable compliance deadlines. Administrative orders will not insulate sources from civil or criminal remedies. These administrative compliance orders supercede, and effectively repeal, the provisions under existing law that allow EPA and states to grant "delayed compliance orders."

**Administrative Penalties*—EPA is authorized to issue administrative penalty orders with a presumptive cap of $200,000. The penalty limit can be increased for cases that routinely involve multiple violations.

**Subpeona Authority*—EPA is given express authority to issue administrative subpeonas in support of its enforcement activities.

**Injunctions and Emergency Orders*—EPA would be able to authorize injunctive actions and emergency orders for actions threatening the environment or public welfare. Existing law limits this remedy to actions that threaten human health.

C. The criminal provisions

The revised criminal sanctions update and expand the current Clean Air Act provisions. These sanctions are EPA's strongest weapon against serious violations, and have been very effective in other environmental laws. The most notable changes include:

**Criminal Fines and Sentencing*—Criminal fines and sentences are increased. The maximum criminal fine is increased to $250,000 for felony violations and the maximum term of imprisonment is increased to 5 years.

**Sanctions*—New misdemeanor- and felony-level criminal sanctions are authorized for certain violations, including knowing violations and actions that place other people in imminent danger of death or serious bodily injury.

**Penalty Assessment*—The maximum statutory penalty may be assessed for each day of each violation, including each day of a multi-day averaging period. In addition, once EPA has made a prima facie case that establishes a violation, the burden of proving any intervening days of compliance rests with the source.

D. The Waxman-Bryant amendment to title VI

As in title IV, members of the Energy and Commerce Committee agreed to try to craft a compromise Title VI amendment before H.R. 3030 reaches the House floor for consideration. If a consensus is not reached, several enforcement amendments may be offered.

The Clean Air Working Group is interested in weakening many of Title VI's provisions. The changes they are seeking include limiting criminal and civil liability and expanding the opportunities for violators to

seek procedural delays. These changes are opposed by the National Clean Air Coalition and other environmental groups.

Despite the many sensible provisions of Title VI, there are two significant problems that need to be addressed. Congressman Waxman and Bryant will offer an amendment to fix these statutory omissions if no committee consensus is reached.

Problem 1: EPA's Clean Air Act Enforcement Authority Is Undermined

A seemingly technical change in an amendment at subcommittee significantly weakens current law by eliminating judicial enforcement of EPA's single most effective compliance tool, the Administrative Order. The change would render EPA's existing enforcement program toothless. In addition, the same amendment eliminates authority for judicial enforcement of Clean Air Act provisions for the control of ozone depleting chemicals. Authority to judicially enforce new air toxic provisions to both protect the Great Lakes and prevent accidental air toxic releases is also eliminated.

The Waxman-Bryant Amendment will restore existing authority to assure that all Clean Air Act requirements are fully enforceable, as provided in President Bush's original proposal.

Problem 2: The Ability of Individual Citizens to Enforce the Act is Still Restricted

Citizen enforcement through "citizen suits" is a vital complement to state and federal enforcement actions. During the early 1980s, the only effective enforcement of federal environmental laws was citizen involvement through lawsuits.

The Waxman-Bryant Amendment will enhance citizen enforcement rights. It will provide that citizens can sue to enforce permit terms and seek penalties for past violations (as is the case with other federal environmental laws), require EPA to respond to citizen petitions, and clarify court decisions that have frustrated citizen enforcement.

[From the Clean Air Facts, May 4, 1990]

THE SIKORSKI-GREEN WARRANTY AMENDMENT

H.R. 3030'S IMPACT ON THE CLEAN AIR ACT'S WARRANTY PROVISIONS

The existing Clean Air Act requires carmakers to provide warranties for almost all pollution control equipment for 5 years/50,000 miles. H.R. 3030 would reduce those warranty requirements to 2 years/24,000 miles for all but two auto parts related to emissions control. This is one of only two provisions in H.R. 3030 that actually weakens current law (the other is a change barring judicial enforcement of numerous Clean Air Act requirements). The warranty requirements for the catalytic converter and Electronic Control Unit (ECU) would remain at 5 years/50,000 miles.

THE SIKORSKI-GREEN AMENDMENT

What the Amendment Does

The Sikorski-Green Amendment amends Title II of H.R. 3030 to extend the manufacturers' warranties for catalytic converters and electronic control units (ECU) to 8 years/80,000 miles.

Background

Since 1970, the aftermarket industry—which is made up of thousands of small, independently owned gas stations around the country—has been urging Congress to reduce warranties to 2 years/24,000 miles. These stations have argued that the longer warranties resulted in car owners bringing their cars back to dealers for servicing, instead of to local gas stations, because of an expectation that repairs might be covered under the pollution control warranty.

Consumer groups have strongly opposed any reduction in the warranties, as that would directly strip existing benefits from current law. Environmentalists also opposed weakening the law because shorter warranties mean carmakers have no obligation to make durable equipment, and automobile emissions increase dramatically when pollution control equipment wears out.

A compromise was reached last year between the aftermarket industry, environmentalists, and consumer groups that balances their legitimate concerns. The agreement would cut warranties on most equipment to 2 years/24,000 miles, but extend the warranty for catalytic converters and ECUs to 8 years/80,000 miles. The catalytic converter and ECU are the most important—and the most expensive—parts of a car's pollution control system. Longer warranties on these parts ensures that emissions won't increase and offsets any losses to consumers from the other warranty reductions.

The longer warranty for catalytic converters and ECUs is also important to consumers because H.R. 3030 increases the amount car owners have to pay under the Act's auto emission inspection and maintenance (I/M) program. Under current law, car owners can waive emission-related repairs if the cost exceeds $75. H.R. 3030 increases the waiver threshold to $450. As now written, H.R. 3030 would increase the burden individual car owners have to clean the air while dramatically cutting the responsibility carmakers have to make pollution equipment last.

The Energy and Commerce Committee's action scuttles the carefully balanced agreement reached by the mechanics, environmentalists, and consumer advocates, and unfairly tilts the deal toward carmakers at the expense of consumers and the environment. The Sikorski-Green amendment restores the original agreement. If it should be defeated, another amendment will be offered that restores the current law warranty requirement of 5 years/50,000 miles for all emission-related equipment.

Who supports the Sikorski-Green amendments

The Sikorski-Green Amendment is supported by the Automotive Parts & Accessories Association (APAA), the Automotive Service Association (ASA), the Automotive Warehouse Distributors Association (AWDA), the Auto International Association (AIA), and the Specialty Equipment Market Association (SEMA), which collectively represent over 15,000 companies, most of which are small businesses.

The Amendment is also supported by many environmental and consumer organizations including the Center for Auto Safety, Consumer Federation of America, National Wildlife Federation, Sierra Club, Audubon Society, American Lung Association, and the National Clean Air Coalition.

Among the state and local government groups supporting the amendment are the National Governors Association, National League of Cities, and the National Association of Counties.

Who opposes the Sikorski-Green amendment

The Sikorski-Green Amendment is opposed by the major automobile makers, the Motor and Equipment Manufacturers Association (MEMA), and Automotive Service Industry Association (ASIA).

[From the Clean Air Facts, May 8, 1990]

THE WAXMAN-LEWIS CLEAN-FUEL VEHICLE AMENDMENT

PRESIDENT BUSH'S ORIGINAL CLEAN FUELS PROGRAM

The President's clean air proposal, H.R. 3030 as introduced, contained a major initiative to promote the increased use of clean fuels such as natural gas and ethanol in the nation's most polluted cities. The President described the program as "the most innovative and far-reaching component" of the Administration's clean air bill—a "bold, new initiative to reconcile the automobile with the environment, ensuring continued economic growth without disruptive driving controls."

The program had two key elements: (1) a proposal to put one million low-polluting, clean-fueled vehicles a year on the road in the nation's nine most polluted cities; and (2) a proposal to require new urban buses in all large cities to shift to clean alternative fuels.

THE PROVISIONS OF H.R. 3030 AS REPORTED

The bill reported by the Energy and Commerce Committee deleted the most important elements of the President's innovative clean-fuels program. It eliminated the requirement that car makers develop and produce a new generation of ultra-clean vehicles for use in the nine most polluted cities. It also eliminated the requirement that oil companies develop new fuels for these ultra-clean vehicles.

In addition, the reported bill watered down the urban bus program. Under the reported bill, so-called "clean-fuel buses" are required to be no cleaner than conventional diesel buses. And in the early years of the program, they can even pollute more than current law allows for conventional diesel buses.

WHAT THE WAXMAN-LEWIS AMENDMENT DOES

The Waxman-Lewis amendment will strengthen the clean-fuel provisions of H.R. 3030 as reported in three ways.

Restoration of the President's Original Clean-Vehicle Program

The Waxman-Lewis amendment restores the mandate that car makers produce—and oil companies fuel—one million clean-fuel vehicles each year. To guarantee "fuel neutrality," the amendment establishes specific emission standards that these clean-fuel vehicles must meet. The standards follow the recommendations of California and New York and call for a 50% reduction in smog-forming and toxic emissions from 1995 through 2000 and a 75% reduction thereafter.

Under this approach, any fuel-and-vehicle combination that meets the emissions standards satisfies the requirements of the program. It is likely that at least the first phase standards, which call for 50% reductions, will be met through a combination of cleaner gasoline and improved emission controls on the vehicle.

Tougher Urban Bus Program

The Waxman-Lewis amendment tightens the emission standards for clean-fuel urban buses. Under the Waxman-Lewis standards, clean-fuel urban buses will once again be required to pollute less than conventional diesel buses—just as proposed in the President's original program.

Stronger Fleet Vehicle Program

The reported bill added a modest program to require the use of clean alternative fuels

in vehicles that are part of centrally fueled fleets, such as taxicabs and delivery vans. The Waxman-Lewis amendment will substantially strengthen this program by incorporating recommendations proposed by the Texas Land Office.

In particular, the amendment will increase the number of cities covered by the program (to include all seriously polluted areas), expand the coverage of the program to include light- and heavy-duty trucks, and set tighter emission standards for clean-fuel fleet vehicles.

THE NEED FOR A STRONG CLEAN-FUEL VEHICLE PROGRAM

Ozone pollution is the nation's most intractable air pollution problem. Despite twenty years of efforts, over 100 cities remain out of compliance with the federal health standard for ozone. To reach compliance, the most heavily polluted cities must reduce levels of hydrocarbon emissions by 50% to 80%.

According to the Office of Technology Assessment, even if all available control technologies are implemented, many cities (perhaps as many as 50) will remain in violation of the ozone standard. This means that new and innovative control strategies are necessary. Without them, according to OTA, the most heavily polluted urban areas will never achieve the ozone standard.

The most promising new technologies involve the use of clean fuels in motor vehicles. Cars and trucks account for half of the nation's ozone pollution—and even more in many cities. The use of clean-burning fuels such as natural gas and ethanol can reduce these motor vehicle emissions by 80% to 90%, according to EPA. Moreover, EPA estimates that these emission reductions can be achieved at no additional cost to consumers or the economy. There is no other realistic way to achieve these emission reductions.

A strong clean-fuel program such as that proposed in the Waxman-Lewis amendment can also reduce toxic emissions by as much as 90%. According to EPA, emissions of cars and trucks cause over a thousand cancer cases annually—more than half of the national total of cancer cases attributable to toxic emissions.

[From the Clean Air Facts, May 9, 1990]

THE RICHARDSON-MADIGAN REFORMULATED GAS AMENDMENT

KEY TERMS

Aromatics—These toxic compounds (i.e., benzene, toluene, xylene) are used in gasoline to boost octane. Each oil company mixes a different "recipe" for its fuel, so the relative amounts of the aromatics can vary. Aromatics are the primary reason that gasoline emits toxic pollutants. High-octane gasoline contains up to 45% aromatics.

Reformulated Gasoline—This is gasoline that is specially formulated to lower ozone-forming and toxic emissions. Emissions are reduced by replacing aromatics with much cleaner alcohols or alcohol derivatives, such as ethyl tertiary buthyl ether (ETBE), which can be made from fermented corn, grains, or other farm products.

THE RICHARDSON-MADIGAN AMENDMENT

What the amendment does

The Richardson-Madigan Amendment requires oil companies to sell only reformulated gasoline in all serious, severe, and extreme nonattainment areas (27 cities). This gasoline will replace both current leaded and unleaded products. The Amendment requires that the ozone-forming potential of the gasoline be reduced by 15%, and establishes minimum oxygen content (2.7%) and maximum aromatic content (25%) limits for the fuel. The requirement is effective in 1994. Waivers of the requirement are available if there is insufficient domestic capacity to meet the demand for reformulated gasoline.

Background

Throughout the 1980's, oil companies continually claimed that gasoline was being made as clean as possible. However, today's gasoline is actually much dirtier than the products sold ten years ago, because it contains more aromatic and volatile compounds than ever before.

Soon after President Bush unveiled his Clean Air bill last July—which contained an ambitious alternative fuels program—ARCO announced it would begin selling a new type of gasoline that achieved dramatic pollution reductions. Other companies have also recently discovered and begun marketing new gasoline formulas that pollute less.

The advent of reformulated gasoline is one of the most far-reaching developments in the fight against air pollution. The Richardson-Madigan Amendment, which was defeated by a 22-21 vote in the Energy and Commerce Committee, has important environmental, energy, agricultural, and economic implications.

Environmental benefits

Reformulated gasoline cuts pollution significantly. In New York City, for instance, 20% of all the reductions needed to meet the federal health standards can be achieved simply through the use of reformulated gasoline.

One of the reasons that reformulated gasoline is so effective is that it is the one control strategy that helps reduce pollution from all vehicles, including the *oldest* and *dirtiest cars.* According to OTA, these cars are a significant portion of the emissions inventory. Since they can't be retrofitted with pollution control equipment, the only way to reduce their pollution is through cleaner gasoline.

Energy benefits

For years our highest energy priority has been finding ways to reduce our dependence on foreign oil. Today, oil companies import hundreds of millions of dollars of aromatic compounds annually. These imports are expected to increase significantly in the next few years, reflecting a greater reliance on OPEC production. A large part of these imported chemicals can be eliminated if domestically produced alcohols and ethers, made from corn, wheat, or other crops, are used in place of aromatics in gasoline.

Agricultural benefits

By moving away from imported aromatics our nation's farmers will find a new demand for their products. The Richardson-Madigan Amendment boosts the agricultural community at the same time it cleans the air.

Economic benefits

Fighting air pollution is a zero-sum game. What we don't cut from one source we have to take from somewhere else. That's why the reformulated gasoline mandate can save our country billions of dollars. Instead of ratcheting down tighter and tighter on sources like dry cleaners, bakeries, and other small businesses—with increasing costs and diminishing returns—we can get the emission reductions we need at cheaper prices through the use of cleaner gasoline in *old* and new cars.

Reformulated gasoline may be the most cost-effective control option available. Since ARCO now sells its reformulated gasoline at no additional cost, its cost-effectiveness is *$0 per ton of* hydrocarbon emissions eliminated. A recent study indicates that a comprehensive reformulated gasoline program would cost about $1000 per ton, compared to the typical $5000 per ton cost of stationary source controls.

The switch from imported aromatics to domestic farm products has two other important economic impacts. First, it has a positive impact on our trade balance, as we will import less. Second, according to GAO, the new demand for American crops could save taxpayers over $1.2 billion per year in farm price support and other programs.

THE OIL COMPANY ARGUMENTS AGAINST THE RICHARDSON-MADIGAN AMENDMENT

The major oil companies oppose the Richardson-Madigan Amendment. Some of their primary criticisms are summarized below.

The Amendment dictates the recipe for reformulated gasoline

Many oil lobbyists are charging that their companies will be hamstrung by the Amendment's precise standards for oxygen, benzene, and aromatic hydrocarbon content. This is untrue. The Richardson-Madigan Amendment expressly allows these limits to be waived if a fuel using a different mix achieves equivalent or greater emission reduction.

There isn't adequate capacity to meet demand

This criticism accepts the notion that reformulated gasoline is available, but argues there won't be enough supply to meet the Richardson-Madigan 27 city mandate. To deal with this possibility, the Amendment provides for a series of waivers if there is insufficient domestic capacity to meet demand.

The Richardson-Madigan mandate will cost billions

The oil companies are concerned that a massive reformulated gasoline program will necessitate overhauling refineries, which could cost billions of dollars and add twenty-five cents to the cost of each gallon of gasoline. However, other analysts, such as the Congressional Research Service and Information Resources Inc., strongly disagree and estimate that gasoline can be reformulated for only a few pennies per gallon.

Reformulated gasoline will cut some pollution but increase others

Although reformulated gasoline will clearly cut hydrocarbon emissions, some companies argue that it could increase emissions of nitrogen oxides. However, the Richardson-Madigan Amendment *expressly prohibits* a company from selling a reformulated gasoline if it would cause any increase in nitrogen oxide emissions. According to the California Air Resources Board (CARB), gasoline reformulation can reduce hydrocarbon emissions without increasing emissions of other harmful pollutants.

Consumers won't buy reformulated gasoline

Some lobbyists are arguing that the government can force oil companies to sell reformulated gasoline, but consumers won't buy it and will continue to use existing gasoline. This is impossible under the Richardson-Madigan Amendment, since only reformulated gasoline can be sold in the 27 affected cities. Moreover, consumers have expressed a preference for the reformulated gasoline on the market today.

[From the Clean Air Facts, May 10, 1990]

THE BATES-BOEHLERT AMENDMENT ON STRATOSPHERIC OZONE DEPLETION

THE BATES-BOEHLERT AMENDMENT AND H.R. 3030

The Bates-Boehlert amendment establishes a new program for the control of ozone-depleting chemicals very similar to that in H.R. 2699, the Stratospheric Ozone Protection Act, which has nearly 160 House cosponsors. The amendment also tracks the ozone protection program which passed the Senate overwhelmingly last January. As reported by the Energy and Commerce Committee, H.R. 3030 currently includes no provisions to reduce the release of ozone-depleting chemicals.

THE PROBLEM: DEPLETION OF THE STRATOSPHERIC OZONE LAYER

There is widespread scientific agreement that man-made chemicals, such as chlorofluorocarbons (CFCs), are destroying the stratospheric ozone layer, which shields the earth from the sun's dangerous ultraviolet (UV) radiation. As the ozone layer gets thinner, more harmful UV radiation reaches the planet's surface.

In the past several years, researchers have documented extensive damage to the ozone layer. On a global scale, depletion has occurred with unexpected rapidity, greatly outpacing predictions based upon computer models. A dramatic seasonal hole discovered in the ozone layer over Antarctica in 1985 was entirely unpredicted. The hole is now larger than the continental United States, and researchers believe that an ozone hole is also developing in the Northern hemisphere, where a much greater impact on populated areas is likely.

Scientists have identified a variety of very serious repercussions from the loss of our ozone shield, including a global increase in skin cancers and cataracts, suppression of the human immune system, potentially dramatic damages to agriculture and forests over the entire planet, and possible impacts on the food chain that supports much of the earth's marine life.

OZONE-DEPLETING CHEMICALS

Depletion of the ozone layer is caused primarily by the release into the atmosphere of CFCs and similar persistent man-made chemicals that rise into the stratosphere and release bromine or chlorine atoms. These atoms act as catalysts, causing reactions which destroy ozone. The chemicals can last for decades in the stratosphere—in some cases more than 100 years—continuing for their full life to cause ozone depletion.

According to the National Oceanic and Atmospheric Administration, more than 6 billion pounds of ozone-depleting chemicals are released into our planet's atmosphere each year. The U.S. alone releases more than 30 percent of this total, far more than any other nation.

There are in general two classes of ozone-depleting substances. The most dangerous ozone-depleting chemicals are CFCs, carbon tetrachloride, methyl chloroform, and synthetic varieties of halons. These are especially potent ozone depleters, either because they last an extremely long time in the stratosphere, or because they are very widely used and present a great threat in the aggregate.

Other chemicals, with a slightly different chemical construction than CFCs, are less persistent in the stratosphere, but are still a threat to the ozone layer. These chemicals are known as HCFCs, because they have the same basic chemical configuration as CFCs except for a hydrogen atom in place of one or more of the chlorine atoms. In many cases HCFCs are short-term substitutes to CFCs that can serve as a temporary solution until new substitutes, that do not deplete the ozone layer at all, can be developed. However, these chemicals must also be phased out in the long term or ozone depletion will continue.

THE MONTREAL PROTOCOL

In September 1987 an international agreement was reached to establish a global program to reduce the release of ozone-depleting chemicals. This agreement, the Montreal Protocol on Substances that Deplete the Ozone Layer, calls for a 50 percent cutback in CFC production by 1998.

There is widespread scientific agreement that the controls on ozone-depleting chemicals in the Montreal Protocol will not be adequate to protect the planet. Experts estimate that concentrations of stratospheric chlorine, the central compound responsible for depletion, will double in coming decades even with full implementation of the Montreal Protocol. Efforts are now underway to strengthen the Protocol. However, the international process has historically been slow and uncertain.

THE HEALTH AND ECONOMIC BENEFITS OF A PHASEOUT

EPA has estimated that a phaseout of CFCs and halons by the year 2000 will benefit the entire U.S. population born before 2075 by eliminating almost 159,000,000 cases of skin cancer, more than 3 million cancer deaths, and over 18,000,000 cases of cataracts. The phaseout of methyl chloroform will eliminate an additional 3,600,000 skin cancers, almost 65,000 cancer deaths, and more than 360,000 cases of cataracts.

EPA also estimates that the value of reduced agricultural damage exceeds $41 billion. Total economic benefits of a phaseout to the United States are approximately $58 billion.

Not considered in the estimates of benefits are the uncertain risks to all forms of life on land and sea. Marine ecosystems, many of which rely heavily on vulnerable kelps and algae, may be especially affected.

THE BATES-BOEHLERT AMENDMENT

Like the program overwhelmingly adopted by the Senate, this amendment includes a rapid time frame for the phaseout of the most destructive ozone-depleting chemicals, a long term program for phasing out use of other ozone-depleting substances, and provisions concerning recycling, labeling, international trade, and safe alternatives.

Phaseout of Class I Substances. The five most destructive CFCs, the three most destructive halons, carbon tetrachloride, and methyl chloroform are designated as Class I chemicals. They are placed on a phaseout schedule that calls for a 50% reduction in production by July 1, 1994, and a complete phaseout (except for medical uses) by July 1, 1997.

Phaseout of Class II Substances. The amendment also calls for a longer term phaseout of other, less destructive, ozone-depleting chemicals, which are called class II substances. The manufacture of products using these substances is barred after the year 2010, and the production and use of these ozone-depleting chemicals is barred (except for medical uses) effective 2020. An amendment placing a similar but slightly less aggressive program in the Senate Clean Air bill passed by an 80 to 16 vote.

Accelerated Schedule. The Administrator of EPA is authorized to accelerate the phaseout of either class I or class II substances if it is determined that safe alternatives are available, that a more rapid phaseout is needed because of increasing destruction of the ozone layer, or that an accelerated schedule is called for in revisions to the Montreal Protocol.

Recycling and Disposal. A program is established to promote and, where feasible, require the recycling of CFCs used in products such as air conditioners and refrigerators. A system is also put in place to assure that motor vehicle air conditioners are only serviced at qualified facilities where personnel are trained and equipped to recover and reuse CFCs. In addition, the program includes measures to minimize the release of ozone-depleting chemicals after disposal. Scientists estimate that up to a fifty percent reduction in the release of CFCs can be attained through this program.

Labeling. Products manufactured with ozone-depleting chemicals, or which contain such chemicals, are required to be clearly labeled so that consumers can be fully informed of impacts on the ozone layer when making choices about product purchases.

Nonessential Products. Nonessential products that deplete the ozone layer, such as CFC-containing party streamers and noise horns, are to be banned under EPA regulations.

Safe Alternatives. A program is included to assure that in developing alternatives to ozone-depleting chemicals, careful attention is given to the health and environmental impacts of substitutes. The effort to carefully screen substitutes, and encourage only those which are safe, is integral to a successful phaseout.

Trade Sanctions. Trade sanctions are included to leverage other nations to comply with the Montreal Protocol and, ultimately, to adopt ozone protection provisions as strong as those in place in the U.S. These provisions will assure that U.S. companies will not be put at a competitive disadvantage as a result of America's leadership in the effort to save the planet's ozone layer.

WHO SUPPORTS THE BATES-BOEHLERT AMENDMENT

The Bates-Boehlert Amendment is supported by environmental and public health groups, and state and local government organizations, including: the National Clean Air Coalition, the American Lung Association, the Sierra Club, the U.S. Public Interest Research Group, the National Wildlife Federation, the National League of Cities, the National Association of Counties, the National Conference of State Legislatures, and the Northeast States for Coordinated Air Use Management.

Mr. LENT. Mr. Chairman, I yield 9 minutes to the gentleman from Ohio [Mr. OXLEY], a member of the Subcommittee on Energy and Power.

Mr. OXLEY. Mr. Chairman, today we stand on the eve of casting the first floor votes in more than a decade to amend the Clean Air Act.

Significant progress has been made in reducing air pollutants over the last 10 years, despite a substantial increase in our demand for goods and services. These reductions are a testament to the fact that environmental laws can and do work. However, while we expect this progress to continue, there is now consensus that we are not doing

enough to protect the environment for future generations.

President Bush and the Congress are committed to enacting legislation that effectively strengthens the Clean Air Act, and today we are closer to that goal than we have been for many years. The legislation before us today represents a comprehensive clean air program, addressing acid rain, ozone and CO nonattainment, and air toxics.

This bill attempts to strike a balance between increased environmental protection and sustained economic growth, a balance which has been impossible to achieve under past proposals.

Mr. Chairman, all Americans want cleaner air. However, cleaning it up will be expensive. The surveys tell us that the environment is one of our Nation's top concerns. However, what the surveys do not tell us is exactly what Americans are willing to pay for cleaner air. While many people may be willing to sacrifice some expense and some convenience for a better environment, I doubt many people are willing to pay with their jobs. I am also not sure that by requiring our constituents to pay anywhere from $20 to $50 billion a year they will believe that they are getting their money's worth.

The Clean Air Act Amendments of 1989 is one of the most comprehensive and complex pieces of environmental legislation to come before us in years. This bill affects every industry, every business, every consumer in our Nation. I believe that these industries, these businesses, these consumers support the objective of clean air as much as we do.

The differences that we have worked long and hard to resolve center around how do we reach the goal of improving air quality. Success will require sacrifice. Who do we ask to make the sacrifice?

Because of the configuration of auto and autoparts manufacturing, industry heavily reliant on electricity, and coal mining, my home State of Ohio will be significantly impacted under every title of this bill. My constituents will be called upon to make sacrifices, often more than their share.

Certain provisions of H.R. 3030 are improvements not only to the quality of air, but also to the quality of life my constituents now enjoy. Other provisions are impediments to maintaining that way of life. The bill includes strict pollution control requirements and timetables to bring cities into compliance with health standards.

It requires industries to install the "best available technology" to control sources of air toxics, and it includes the most stringent acid rain proposal ever reported. Some of these sweeping controls on automobiles, factories, and powerplants are a result of compromises struck to meet President Bush's test of "balance and reasonableness."

The mobile source provisions of this bill are tough. However, to soften the blow on the auto industry, I am happy to say that we struck a compromise on tailpipe emission standards. It is my hope that we do not upset this compromise and add additional costs to the auto industry, to workers, and to consumers either on the House floor or in conference. Further, I would hope that we look carefully at all proposed changes in the mobile source provisions and make sure that what is promoted as "necessary for environmental protection" will actually result in improved air quality.

Under the air toxics section, we struck a delicate balance between industry and the environment by requiring technology standards for all categories of major sources while preserving the standard in current law for health-based standards.

Perhaps the toughest compromise to strike was that regarding acid rain. While I supported the acid rain agreement worked out in the Energy and Commerce Committee, I must admit that I believe the process has been flawed from the beginning.

Ten years ago we established a taxpayer funded study, costing more than $500 million, to be the definitive statement on acid rain. Just a few months short of the final statement, we are saying it was just another worthless Government study and that despite the fact that we are not scientists, we know the answers. This rush to the finish not only wastes taxpayer dollars, it ignores the interim reports published by NAPAP which indicated that acid rain is not a serious environmental problem.

This chicken-little mentality will cost my home State of Ohio between $1.5 and $2 billion a year. These costs will result in electric rate increases of 10 to 40 percent and an estimated loss of 15,000 mining and related jobs. In my district, a steel plant, which already pays $2 million a month for electricity, faces double-digit rate increases. In the Ohio Valley, an aluminum producer faces up to 40 percent rate increase.

One key element of title V of H.R. 3030 was to provide for the most cost-effective sulfur dioxide emission reductions. However, it pitted one region of the country against the others. Within these confines proposed by President Bush, it was difficult to protect jobs in the Midwest and provide for potential growth elsewhere. While the bill still caps all future growth, I am happy that we included some assistance for those units nearing completion, such as the Zimmer plant in my home State.

Another key component of the President's bill was the concept of allowing the market to encourage reductions in pollution. This provision also caused divisions between the Midwest and the other States. To blunt the argument that the Midwest would hoard allowances, and not give access to utilities in other States, I am happy to say that my proposal for auctioning allowances was accepted as part of the acid-rain compromise. The allowance auction will provide money to the Midwest utilities faster, as they work to retool and meet the costs of complying with the new requirements. The auctioning of allowances will also help to ensure that allowances are available to utilities across the Nation when needed for economic growth. To accomplish these goals, the bill provides for an early voluntary auction in 1992 and annual auctions commencing in 1993.

Mr. Chairman, it is our challenge to solve the scientific, economic, and environmental controversies and enact a clean air policy that improves both the public health and the economic well-being of all American people. We have learned, our technology has advanced, every step along the way we have tried to build upon our knowledge to improve the health, the economic opportunity, and the lives of our people.

While this bill is far from perfect, we have crafted a compromise that goes a long way toward ensuring a better environment for future generations.

There may be attempts on the floor to expand this bill to include provisions addressing stratospheric ozone depletion. While ozone depletion deserves attention, we should not mandate control schedules that are inconsistent with those to be agreed upon next month at the meeting of the parties to the Montreal protocol. Should an agreement not be reached today, I am prepared to offer an amendment with my colleague Mr. BRUCE which would provide for the phaseout of ozone depleters in a manner consistent with the terms of the Montreal protocol.

In summary, Mr. Chairman, I want to applaud President Bush, my colleagues on the Energy and Commerce Committee, and American industry for the steps we all have taken to meet the challenge of economic progress and environmental responsibility.

President Bush took the initiative last year and submitted H.R. 3030 which represents the first comprehensive reauthorization bill introduced by an administration since the Clean Air Act was last revised in 1977.

My colleagues on the Energy and Commerce Committee have worked very hard to focus on real, identifiable environmental needs, and meet those needs with financially prudent policy.

And, American industry should be commended for their efforts to improve our way of life, not only materially, but also environmentally. Let us not forget that it is because we have continual economic progress that we

are able to afford environmental protection. It is a luxury not all nations enjoy.

The path to a cleaner, safer environment is long and often painful. Today we take another step along that path.

□ 1400

Mr. DINGELL. Mr. Chairman, I yield 10 minutes to the distinguished gentleman from Indiana [Mr. SHARP], the chairman of the Subcommittee on Energy and Power.

Mr. SHARP. Mr. Chairman, after more than a decade of work, frustration and hope, Congress will take steps today to fulfill the promise of cleaner air for all Americans. This week we will rewrite and amend the Clean Air Act.

The act has served us well—many of the problems its authors first saw are on their way to a solution.

In other areas the act has simply not worked. Over 100 American cities do not offer their residents healthy air. This legislation will tackle that problem—with an ambitious but realistic new smog plan—and keep the promise of clean air.

Some chemicals used in industrial processes threaten the health and even the lives of our citizens. The current Clean Air Act attempted to provide the needed protection—and failed. Only 17 of hundreds of cancer causing, death-dealing air toxics ever got action from the Environmental Protection Agency. This bill will keep the promise of clean air.

And in another area, acid rain, this bill will keep the promise of clean air. Acid rain was not a part of the original Clean Air Act in 1970. Over the years, concern has mounted as sulfur dioxide and oxides of nitrogen, emitted largely by fossil-fuel-burning electric utilities and industrial boilers and processes, fouled lakes and streams in New England and elsewhere, killing fish and the waters themselves.

Combined with ozone, acid rain damaged trees and was implicated in the deterioration of buildings, statuary, car finishes and even the health of Americans.

This legislation tackles the problem of acid rain. It is very tough environmentally. And some of us fought hard to make changes to make the bill more fair to nine States in the Midwest and Southeast that bear a disproportional share of the burden for reducing acid rain. The legislation proposed by the President asked nine States, which produce 50 percent of the Nation's sulfur dioxide to reduce 77 percent of the bill's requirements. In fact, in the early years of the legislation, those States will be responsible for 90 percent of the bill's reduction requirements. We did not get cost-sharing, the type of fairness we felt entitled to—where other parts of the country would help pay for the reductions we were doing in their stead. But we did make changes to the proposal that provide real benefits to the workers and electric ratepayers of those States asked to bear more than their fair share of the burden.

Mr. Chairman, the acid rain program we have before us today is the result of hard-fought negotiations and hard-won concessions. It is carefully balanced to ensure that this Nation achieves a 10-million-ton reduction of sulfur dioxide and up to a 4-million-ton reduction of nitrogen oxides. We did not compromise the environmental goals of the President's bill. In fact, by providing incentives for the use of conservation and renewable energy sources, we have strengthened the bill environmentally.

Mr. Chairman, the acid rain proposal we will vote on this week contains modest but necessary incentives to minimize the job disruptions that will inevitably occur as we push this Nation toward cleaner air. In this case, the job losses we seek to minimize are those of industrial workers in energy intensive industries and workers who mine the high-sulfur coal our country has long depended on for electricity. This will be a miserable time in the high sulfur coal fields. We tried to ease what remains terrible economic news for many miners, their families and their communities.

The acid rain portion of the bill is balanced in terms of the compliance choices likely to be made by those who have to reduce emissions. The President's bill did not contemplate using any job-preserving technology. In contrast, our proposal promises to blunt the job loss, and keep some who would have lost their jobs employed. Technology, whether it is the newest generaton of scrubber technology that literally scrubs smoke clean of sulfur dioxide, or whether it is the still developing and promising clean coal technologies, will play a role in complying with this legislation. Technology can provide the greatest reductions of pollution, and can help get the job done early. Again, these incentives are modest, Mr. Chairman, but necessary and just to moderate what is predicted to be a body blow to entire communities in the high sulfur coal belt.

There is, Mr. Chairman, good news in the acid rain bill for other workers, other regions. It is inevitable that natural gas will become more and more the fuel for clean-burning applications. The natural gas industry stands to benefit greatly from the new markets available to it in this legislation, and particularly, in the acid rain section. Low sulfur coal, as well, which is found in the West and some Eastern portions of the United States, will find an expanded market from the need for compliance with tough control standards.

The President proposed, and we have adopted, a stringent cap on emissions growth. This cap will preserve the expensive and hard won reductions that will stop acid rain. It means that those currently emitting pollution at relatively low levels will be frozen at those levels, and it means that all new growth—new power plants that will be needed before the end of this century—will essentially have to buy reductions from existing sources to keep the level of pollution in the air at the 10-million-ton reduction level chosen by the administration. This is a big and expensive task. And it is not one that was contemplated by most of the previous legislation debated to solve the problem of acid rain. It significantly raises the stakes for the West and other high growth areas of this country.

The administration provided a new currency in air pollution, called allowances, to facilitate a new market in pollution reduction credits. Mr. Chairman, the committee has worked very hard to make that system work. We needed to guarantee that allowances would flow to those who needed them. We needed to guarantee that those who had ability to create allowances would not hoard them, but rather would produce and sell them. And we needed to guarantee that no anticompetitive behavior would stand as a barrier to entry or the new independent power industry and for public power entities. The bill has received much praise in these areas.

One more feature of the legislation bears special mention. Because of the restrictive nature of the cap and the need to ensure the 10-million-ton reduction by the deadline chosen by the administration, the year 2000, some in the country with special problems were disadvantaged. States with extremely high growth in this decade, utilities which had emergencies, utilities that temporarily emitted at extremely low levels during the base period, utilities scheduled to be constructed before the bill takes effect but after enactment—these problems had to be addressed in the committee.

In addition the committee added important incentives for utilities to adopt conservation strategies which save energy, reduce pollution and save consumers money.

All these elements are part of this compromise that is title V of the bill, the acid rain title.

We can truly say we have made it fairer than the legislation that was before us when we started. It is clear that many of the provisions in the bill will have major impacts on our energy policy—both in the choice of fuels and their cost. It will become more difficult to use our most plentiful domestic resources—coal—to generate electricity, and we are changing the mix and

composition of our transportation fuels. We have had to balance these energy policy and economic effects with the demands for air quality improvement, and I believe the committee bill has achieved a reasonable balance.

Mr. Chairman, I look forward this week to the debate and to the consideration by this House of the legislation which has occupied the thoughts of so many for so long. It is very hard to construct legislation that balances jobs and the environment—regions, one against the other—and even industries in competition. But, painful as it has been, when we are done we will be able to say that we have kept the promise of clean air—for our Nation, our communities, our families, and our children's children.

□ 1410

Mr. LENT. Mr. Chairman, I yield 5 minutes to the gentleman from Pennsylvania [Mr. WALKER], the ranking minority member of the Committee on Science, Space, and Technology.

Mr. WALKER. Mr. Chairman, I thank the gentleman for yielding this time and thank him for his hard work, and the chairman of the Committee on Energy and Commerce and all the others who have labored to bring this bill to the floor.

I am pleased to see the legislation finally on the floor. I think Congress will act responsibly in bringing us a final product within the next few days.

As a part of those deliberations, the chairman of the Committee on Science, Space and Technology, the gentleman from New Jersey [Mr. ROE] will be asking that the Clean Air Act research amendments, reported by our committee, be made in order as an amendment to H.R. 3030.

We had hoped, at least I had hoped, that those amendments would be a part of the base bill being brought to the floor. It now appears that was not able to be worked out, and that is disappointing to me. I would have preferred to have it as part of the base bill, but it is important that the House have an opportunity to act on this research program as a part of what we do in the clean air bill, so I fully support the action of the gentleman from New Jersey [Mr. ROE] to go to the Rules Committee and ask that these research amendments be made in order when the Rules Committee meets tomorrow.

The Science Committee legislation makes an important contribution to the Clean Air Act reauthorization by directing the EPA to conduct vital air pollution monitoring and assessment activities. Some of the kinds of things that are included in that research title are a research program on the effects of air pollutants on human health, a study of the causes and effects of ecosystem damage from air pollutants, a basic engineering research and technology program to develop and evaluate technologies for air pollution prevention, and the development of an acid disposition response plan.

Research work of this type is vital to the success of the Clean Air Act. As the effort to improve air quality progresses, the cost of each incremental step increases. A solidly grounded research and monitoring program is needed to ensure that the requirements imposed by the act are indeed working as projected to improve air quality across the country. The activities outlined in the Science Committee's legislation will go a long way in telling us which requirements are fulfilling the goals of the act and which need to be modified.

So I am hopeful that the Rules Committee will make in order an amendment to allow the Science Committee to bring its title to the floor, and I am hopeful that the house will act on that amendment in favorable terms so that as a part of what we do to improve the regulation of air quality, we also improve the research and science surrounding air quality. I think that we can make an important contribution to not only the present, but to the future if we strengthen our research program.

Mr. DINGELL. Mr. Chairman, I yield 5 minutes to the distinguished gentleman from Ohio [Mr. THOMAS A. LUKEN].

Mr. THOMAS A. LUKEN. Mr. Chairman, the committee chairman, the gentleman from Michigan, is always generous with his time and I thank him, but I may run out somewhere around 6 minutes.

Mr. Speaker, we are writing history today.

In an unprecedented manner, adversaries have come together, animosities have subsided, differences have been put aside in this year of the environment.

"Hallelujah" was the word which rang out when the committee completed its deliberations, and that word is applicable today.

Chairman DINGELL, the gentleman from California [Mr. WAXMAN], the gentleman from New York [Mr. LENT], the gentleman from Illinois [Mr. MADIGAN], the gentleman from Washington [Mr. SWIFT], the gentleman from Indiana [Mr. SHARP], and others have worked prodigiously. Their efforts have been tremendous, their patience and sacrifices have likewise been great.

The bill accomplishes more, at lower cost, than the bill passed by the other body. The bill will not cause the shutdown of the coke ovens for the steel industry. The acid rain provisions recognize the concerns of the high-sulfur coal miners, the steelworkers by allowing for more flexible, yet very stringent regulation.

The bill does achieve balance. It is a good bill; yet, in some places the bill goes further than some of us thought necessary.

The acid rain proposal herein is ambitious. It sets as its goal a 10-million-ton reduction in sulfur dioxide emissions levels by the year 2,000, and a 2-million-ton reduction of nitrogen dioxide emissions by the same year. I do not have a problem with these goals, none of us do.

However, I do have several concerns with respect to the accuracy of the 10-million-ton reduction estimate; how the reduction will be achieved, and the disproportionate burden it places on the Midwest and Southeast.

Some people say that acid rain is a Midwest problem, as has been stated already here today. Let me remind you that while all our utilities will bear the enormous compliance costs, the ultimate effect of acid rain control on international competitiveness and energy security impacts everyone, and industrial sources other than utilities are contributing to the problem, but are not paying.

In the State of Ohio, compliance costs are estimated to be $1.5 billion to $2 billion a year. These costs will result in electric rate increases of 10 to 40-percent and an estimated loss of 15,000 mining and related jobs. In the Ohio Valley, an aluminum producer faces up to a 40 percent rate increase. This means a loss of more jobs.

The National Acid Precipitation Assessment Program, or NAPAP study, has recently stated that the total sulfur dioxide emissions reduction resulting from this bill would be much more than 10 million tons, more like 10.6 to 11.3 million tons.

H.R. 3030 is not totally equitable in its emissions reduction requirements. For example, the bill requires Ohio and 8 other Midwestern and Southern States to achieve over 70 percent of the Nation's sulfur dioxide reductions, while these States contribute only about 50 percent of the total emissions.

Ohio utilities have spent more than any other State on air pollution control, so it is not totally equitable.

Further, another aspect of this bill, proposals for the regulation of emissions from consumer and commercial products are part of the bill. The public probably does not realize that clean air covers emissions from products, not just the manufacture, but the use of the products in our households. The original proposal in one of the bills provided for mandatory percentage reductions of 25 percent in 5 years and 50 percent in 10 years.

We would have been denied, under that proposal, the use of many seemingly innocuous products, such as perfume, shampoo, deodorants, mouthwash, along with paints, varnishes and

stains, without the benefits of the analysis to tell just how harmful these studies might be.

Although the report language suggests that all commercial and consumer products will be regulated, from shampoos to toxic solvents, this was changed in the statutory language, and I congratulate those who were helpful in changing it, which now requires that only the worst actors be regulated.

□ 1420

That is where this bill has bounced. The EPA must consider how much a product actually contributes to the formation of ozone before it decides whether or not it makes some sense to regulate it.

Hundreds of thousands of household products sold throughout the country and not found to be the cause of the problem will not be subject to unnecessary regulation. On the other hand, the major contributors, as recognized by the OTA and other agencies such as surface coatings, paints, and asphalt, are likely to be regulated.

The compromise exists in this bill, and it is common sense, as much of the bill can be so described. It is progress that the authors of this bill and the crafters of the many compromises and modifications along the way can be proud of.

Mr. LENT. Mr. Chairman, I yield 5 minutes to the gentleman from Colorado [Mr. SCHAEFER].

Mr. SCHAEFER. Mr. Chairman, it is with a great deal of pride that I rise today in support of H.R. 3030, the Clean Air Act Amendments of 1990. Proud to be of the party of the president who has been the leader of this critical legislation. Proud to be a member of the Energy and Commerce Committee which has strengthened the bill considerably without overburdening our economy. But perhaps most proud to represent an area of the country whose commitment to improving its air quality is unsurpassed.

Colorado's fight for clean air hasn't been an easy one. Faced with Federal sanctions, the State adopted a number of aggressive and politically sensitive measures. At the top of that list is an innovative oxygenated fuels program which, thanks to its consumer choice approach, has led to significant reductions in automobile emissions. This effective clean air strategy, with the cooperation of the public, has reduced violations of air quality standards to just a handful.

Colorado's struggle at the Federal level has been altogether different. Plagued with excessive levels of carbon monoxide—and not the better-known ozone and acid rain pollutants—the fight has been one for recognition. Colorado's nonattainment areas are not as prevalent and the source of the problem is better understood. As a result, in clean air discussions on Capitol Hill, carbon monoxide is often regarded as a persistent afterthought.

This secondary status is no indication of the severity of the problem. Forty four cities nationwide exceed the health-based standard for carbon monoxide, posing risks to their residents and local economies. While short-term progress is being made in many of these areas, vast increases in vehicle miles traveled and overall growth threaten to erase much of the improvement. The challenges of the future are just around the corner and the States cannot meet them alone.

Fortunately, there is an administration in place that understands the need for Federal leadership. By introducing comprehensive clean air legislation, it effectively broke the congressional logjam which had allowed the act to expire. I was pleased to cosponsor this landmark legislation, recognizing it as a critical starting point.

But not until the Energy and Commerce Committee completed its consideration were the States given the tools to finally reach attainment. Strict deadlines, mandatory sanctions and close Federal scrutiny ensured that States' feet would be held to the fire and that progress would continue to be made. More importantly, the actions of the committee showed a commitment to improving air quality in all areas in nonattainment—regardless of the offending pollutant.

For carbon monoxide areas, this meant one thing—cleaner automobiles. In many cities, up to 90 percent of CO can be attributed to mobile sources. The legislation before us addresses this with a number of aggressive provisions including tighter tailpipe standards, adopting California's standards, cold weather certification, requiring Detroit to engineer its cars to meet the CO standards at 20 percent, enhanced inspection and maintenance programs and oxygenated fuels. From Colorado's perspective, this alone is quite an accomplishment.

But the committee did not stop there. We also agreed to two amendments which I sponsored relating to those nonattainment areas located at high altitude. First, at least one high altitude testing center would be established to make certain that vehicles comply with emission standards regardless of the part of the country in which they are driven. And second, high altitude cities would be brought into the age of alternative fuels with a requirement that fleet vehicles operate on something other than conventional gasoline. With these provisions in place, the message to environmentally responsible areas like Denver is clear—in the fight for better air quality, you are no longer alone.

Before closing, I would like to commend my colleagues on the Energy and Commerce Committee for putting together such a responsible package of amendments to the Clean Air Act. We can take pride in nearly every account which selects our bill as being better environmentally and economically. Special recognition goes to Chairman DINGELL and Representatives LENT and WAXMAN whose leadership has brought us to this point. And again, thanks to President Bush for demonstrating his commitment to the environment by not only getting the train rolling, but by making sure it stayed on track.

I urge my colleagues to support this critical legislation.

Mr. DINGELL. Mr. Chairman, I yield 9 minutes to the gentleman from Washington [Mr. SWIFT].

Mr. SWIFT. Mr. Chairman, when I first got involved with this issue, which seems now to be somewhere in the vicinity of the dawn of time, but only 3 or 4 years ago, the first thing I heard, and the second, the third, the first 100 things I heard were that, "This is going to cost a great deal of money in my industry, and you are only going to get that much environmental improvement." It was true. It was true.

Because the fact is there are no big hits anymore. There is not any place left where we can go and get a prodigious amount of pollution that we can take away and do so at low cost. The automobile industry had reduced its tailpipe emissions by 96 percent, 96 percent, and we are having to ask them to do even more. This legislation does ask them to do even more.

I point this out simply because I think that there are many in industry who think that there is someplace else we can go and get this out of somebody else at less cost and at bigger improvement to the environment. The fact is that is not true, and because I think there are many on the other side of this issue who think that this particular environmental cleanup process can be done easily and cheaply if only people had the will to do it, both are wrong. This is a difficult job, and it is a very expensive job. It is a job that this bill is going to get done.

There is no cost-benefit ratio in this bill, and some people are surprised to hear this. This does not say, "You will clean up as much of the air as you can afford to do." This says, "You are going to clean up the air to a set standard." What is that standard? It is a medically established standard, one about which there is almost no argument at all. It is a standard below which air would no longer be healthy to breathe.

Mr. Chairman, I have talked to many, many groups, industry groups, around this city. I have said, "Is there anyone here who would like to take the position for their corporation that

their corporation is for something less than, by definition, air that is healthy to breathe?" I have yet to have one single taker.

So we have established a health-based standard without regard to the cost-benefit, and we are pursuing in this legislation that goal vigorously, but let no one believe it is easy or inexpensive.

I think it is important, because I think sometimes when we come to these important public policy issues that deal with the environment we get into a holy war.

□ 1430

On the one side those who are so committed to strong environmental legislation that they do not look at the cost, and those who are so committed to looking at the cost that they refuse to look at the environmental degradation that goes on around us.

Somewhere the best public policy grows out of an understanding of what you must do for the environment and an understanding of what the cost of that policy is going to be, because I think it helps one develop honest and fair compromises.

Does this bill contain compromise? Oh, you bet it does. Were those compromises honest? All the ones I know about were. Were they fair? The ones I know about were. Were they helpful in addressing this issue of meeting the environmental needs, but keeping an eye on the cost? The answer is yes.

I think the gentleman from Michigan [Mr. DINGELL], the gentleman from California [Mr. WAXMAN], and the gentleman from New York [Mr. LENT], as the leaders of the three groups in the committee and subcommittee, are to be commended for with great difficulty and hard work hammering out the compromises that exist in this bill and that make it I think in the long run a better bill, because it has blended an understanding of the environmental necessities and extremely great cost that is associated with them in this legislation.

A group of members on the committee that somebody called the Group of Nine developed a piece of legislation that has become at least in part embraced in title I and to some degree title II of the bill. What we managed to work out was something that the EPA said was as strong an environmental proposal for title I as existed, save one in the other body, and that it did so at less cost to the economy than any other proposal on the table, including that of the Reagan administration, which from my perspective was not environmentally very strong.

The point is that while a cost-benefit ratio is not appropriate when you are dealing with health, having a cost-effective way of dealing with health is appropriate. I would submit that this legislation, worked out over years, with compromises worked out over the last few months, has managed to draw in most of these instances a fine balance between being a strong bill that will provide clean and healthy air for the American people, and doing so at a very large cost, without question, but at a cost that could have been so much higher in order to achieve a level of clean air than might otherwise have occurred had it not been for the compromises worked out by the leaders of the committee.

Mr. SHARP. Mr Chairman, will the gentleman yield?

Mr. SWIFT. I yield to the gentleman from Indiana.

Mr. SHARP. The gentleman from Washington [Mr. SWIFT] deserves a great deal of credit for a year of devotion to this question when he led the Group of Nine in trying to examine how we could get communities into attainment with the Clean Air Act goals and to do it the least expensive way. The gentleman understood it was going to be expensive and accepted that proposition, but knew the goal was to try to do it at the best cost that we could possibly make it to the consumer.

The gentleman from Washington [Mr. SWIFT] deserves enormous credit that I do not think he has been properly recognized for, for endless hours that he gave to this in producing a document that has become a major part of this bill before us today and that the EPA, as indicated, has identified as both environmentally stronger than many of the other proposals, and yet doing it at the least cost.

Mr. Chairman, I compliment the gentleman from Washington [Mr. SWIFT] for his work.

Mr. SWIFT. Mr. Chairman, I thank the gentleman from Indiana [Mr. SHARP] for his kind remarks. There were a group of us that really ran a gamut in terms of geographical distribution across this country and in terms of philosophical view that worked on that together, all of us investing an enormous amount of time and staff time. We hope we did make a contribution.

Mr. Chairman, my bottom line is that neither side should assume there was a cheap way to achieve these goals, and neither side should assume that these are goals that we could in any conscience not seek to pursue and to achieve. As long as everyone realizes that, I think we will understand that what we will be doing when we pass this legislation later this week is an enormous step toward the improvement of the air quality of this country and providing all of the citizens of America with air that is by definition healthy to breathe at a cost that is not greater than was absolutely essential in order to achieve that goal.

Mr. LENT. Mr. Chairman, I yield 5 minutes to the gentleman from Texas [Mr. FIELDS], who is a member of both the Subcommittee on Health and the Environment and the Subcommittee on Energy and Power.

Mr. FIELDS. Mr. Chairman, this is a momentous day for all Americans. No issue strikes deeper into Americans' conscience than clean air. Finally, after 13 years of legislative deadlock, we have clean air legislation before us for consideration.

I want to thank my colleagues on the Energy and Commerce Committee and all the staff for their diligent work on the clean air bill. Countless hours were spent by all to reach accommodation on some of the most contentious areas of the legislation.

H.R. 3030 is a strong bill which will bring cleaner air to all Americans. Still, the final product is far from perfect. I have serious, lingering concerns about provisions in the air toxics, alternative fuels, and acid rain sections of the bill. I plan to work with my colleagues to address these problems between now and conference.

We do need to revamp our clean air law. But we cannot do that from fantasyland. We have to strike a balance between stronger rules to protect our environment and the economic impact they will have on our industries and our lifestyles.

Americans are already spending $32 billion per year to clean our air. More needs to be done. And, I am not suggesting that additional controls are going to be cheap. In fact, the administration estimates the additional yearly cost of H.R. 3030 to be $20 billion. If history is any guide, however, the actual cost of complying with the clean air reforms will be substantially greater than $20 billion.

The fact is, we don't really know the full cost of the legislation before us. For example, the bill forces new technology for which we can only guess the price tag. Whatever the final cost of the bill, one thing is certain—it will be an expensive drain on our constituents' pocketbooks and on our economy.

However, as an original cosponsor of the President's clean air bill, I believe that it is a price tag which must be paid. But, at the same time, I must repeat my strong belief that we must choose only the most cost-effective approaches to cleaning the air. We simply can't afford gold plating. The price tag is too high.

I urge my colleagues to apply the cost-effectiveness test to each amendment we consider over the next few days. As a representative from Houston, TX, I am particularly concerned that the final product which this Congress sends to the President be environmentally progressive, but not economically devastating. If we do both,

and I believe we can, it will be a law both the Congress and the President can be proud of, and it will be a law which finally will achieve the goal of cleaner air for all Americans.

□ 1440

Mr. DINGELL. Mr. Chairman, I yield 5 minutes to the gentleman from Oklahoma [Mr. SYNAR].

Mr. SYNAR. Mr. Chairman, we have come a long way today. After almost a decade of work both in the public and private sectors, we are now ready to try to pass a clear air bill.

As we begin this legislation, for those who are listening, I think it is important to note that this is a story that really has two stories to it.

First, it is a story of people. It is a story about a man named JOHN DINGELL who had the courage and foresight to put together one of the greatest pieces of legislation that this Nation will see, and will be remembered for it in the 1990's. It is a story about HENRY WAXMAN, a person whose determination to improve the quality of the air was the driving force behind this legislation and who worked closely with all of us who shared that dream so that it could become a reality. It is a story about NORM LENT, who had the patience and the courage to work with everyone to make sure that the bill was balanced. And it is also a story about nine people who began 3 years ago to learn what needed to be done in the United States and around the world with respect to clean air. It was PHIL SHARP, and AL SWIFT, and DENNIS ECKART, and RICK BOUCHER, JIM COOPER, JIM SLATTERY, TERRY BRUCE, BILLY TAUZIN, and others.

It is a story about people trying to do the thing that the Nation has said that they want in the 1990's, and that is a cleaner environment.

But as the gentleman from Washington [Mr. SWIFT] said during his remarks, there is a second story, and that is the story of compromise, because in the next days as we debate this bill we are going to find that no one got everything he or she wanted, and that almost every bit of this bill has been negotiated in order to accommodate the various interests that are at stake.

I think we can all conclude that the clean air bill that we bring to the floor is a very good start in accomplishing the goals that all of us have, producing a cleaner environment into the 1990's and for the next century.

In our acid rain provisions we balanced the regional interests in order to ensure that our air would improve. In the ozone area, we reached an agreement that results in true reductions in areas that are not presently in compliance. The ozone provisions are more efficient, and more cost-effective, than those of the other body and they will help us win the war for that most important goal.

For fuels, we will offer an amendment on reformulated gasoline which recognizes its new contribution to the fuel mix. During the debate on our fuels provisions Members will learn what our underlying theory should be, we want cleaner air without disrupting our energy supply, and that this should be the driving principle.

We will present to our colleagues a toxic provision which was fashioned to protect the human health not only of this generation but for future generations.

Finally, we will begin to protect the crown jewels of this Nation, our national parks, but putting forth a visibility provision to protect air in our natural parks. It will begin to give us the type of protection that all Americans want for these most precious resources.

We started a decade ago and we have made real progress. In the days ahead as we debate this bill I hope all of my colleagues will remember this is a bill of people, and it is a bill of compromise.

But finally, let me reiterate what the gentleman from California [Mr. WAXMAN] said. This is a bill that shows that the process works. The staff who have worked literally around the clock for almost 3 months are to be commended most. Through their tireless efforts in working to bring this bill here today, we are able to bring to our colleagues probably the best step forward in clean air in this century. I am proud to be associated with it. I commend my colleagues in this debate and look forward to working with them as we proceed through this debate and through conference and deliver to the President the strongest clean air message for the decade of the 1990's.

Mr. LENT. Mr. Chairman, I yield 5 minutes to the gentleman from Virginia [Mr. BLILEY], a member of the Subcommittee on Health and the Environment.

Mr. BLILEY. Mr. Chairman, it is rare that we come and debate on a piece of legislation that has worked. The Clean Air Act Amendments of 1977 have done a good job. Ambient ozone levels are down 21 percent; carbon monoxide levels 32 percent; and sulfur dioxide levels 37 percent.

This progress has not been cheap. In 1987, the Commerce Department estimated that in that year alone it cost $33 billion. But in spite of all of this, it has not gone far enough.

Last year 100 areas failed to meet the health levels for carbon monoxide and ozone. Worse yet, 28 additional cities have fallen into the nonattainment category. And acid rain has not only damaged our forests and our streams, but it has acted as an irritant in our relations with our good neighbor to the north, Canada.

For 9 years I have been privileged to be a member of the Health and the Environment Subcommittee and the full Committee on Energy and Commerce. We have struggled with this issue.

At the beginning we lacked complete data. We also had some inaccurate data. But finally this has come together, and a year ago as we began the 101st Congress I wrote a letter to President Bush saying that the one ingredient that we lacked to move a good, strong clean air bill was presidential involvement. I am proud to say that the President has responded with the most comprehensive bill ever submitted to the Congress on this subject, and we used it in our deliberations in the Energy and Commerce Committee, H.R. 3030, as our mark from which to work to improve, and we have improved it, as my colleagues on both sides of the aisle have pointed out, with many compromises.

I was proud to be associated with one in title I, and also one on visibility. It is a balanced bill. As my colleague from Washington said, it is not cheap. It is going to require great sacrifice on the part of all Americans, not just business and industry, but Mr. and Mrs. America in their homes in the fuel bills that they will pay, and in the type of vehicles that they will drive and the chemicals they will use.

But this is a good bill and I am proud to have been a part of it and to have had the privilege to work with our chairman and our ranking member on our committee and other members. But as the gentleman from Oklahoma pointed out, probably the most important people that should be recognized are the unseen members of our staff, our personal staff, and the committee staff who have worked around the clock, particularly in the last month, to create this vehicle, this bill, these compromises and to bring us to this point. I thank the gentleman from New York [Mr. LENT] for yielding me the time, and I yield back to him the balance of my time.

Mr. SHARP. Mr. Chairman, I yield 6 minutes to the distinguished gentleman from Louisiana [Mr. TAUZIN].

Mr. TAUZIN. Mr. Chairman, I thank the gentleman for yielding time to me.

Mr. Chairman, there is a saying environmentalists have used on bumper stickers for some years now, and it says very simply: "Think globally but act locally." A remarkable thing happened on the Energy and Commerce Committee as we began marking up this bill. Under the incredible leadership of the gentleman from Michigan, [Mr. DINGELL], the gentleman from New York [Mr. LENT], from the minority side, the gentleman from California [Mr. WAXMAN], the gentleman

from Indiana [Mr. SHARP], and others who play such vital and key leadership roles, our committee began thinking globally and produced a bill that requires us to act locally to begin cleaning up the air in America and in the world.

It would have been easy for Members who represent districts whose utilities burn coal that is laden with sulfur and whose districts contribute heavily to the acid rain problems of America to think locally and to fight against decent acid rain legislation because of its cost.

□ 1450

It would have been easy for those who represent the automobile industry sectors of our country to think locally and to fight against decent tailpipe emission standards for America. It would have been easy for us who represent oil and gas communities to think locally and to fight alternative fuel provisions for cleaner fuels in America's fleets of automobiles, trucks, and buses.

It would have been easy, even, I think, for some representing petrochemical industries to think locally about the jobs and the economic impact on those industries instead of thinking about the awful damage to the lives and health of the citizens of this country and of the world because of the awful level of toxic emissions poured upon families and communities near those plant sites.

Instead, our committee came together and began focusing on the global effects not only of the damage that we were doing here in America but how America might lead the way for the world to begin cleaning up what is so critical to all of us and what is held so in common by all of us, the air that God created for us.

I waxed a bit poetic during the committee markups, remembering my days as a thespian in Nicholls State University, where I performed the role of Hamlet. I recall the words that Shakespeare wrote in one of Hamlet's soliloquies when he talked about, "This most excellent canopy, the air, look you, this brave o'erhanging firmament, this majestical roof fretted with golden fire, why, it appears no other thing to me than a foul and pestilent congregation of vapours." Shakespeare, even in those days, was reminding us how precious the air is and how sacred it is to all of us.

Our committee came together in an extraordinary way and did things in this bill which will hurt every section of this country economically in order to improve the health of our citizens in this country and for the world, the air that we all breathe. That is a remarkable feat.

As we come to the floor with this legislation, the extraordinary delicacies of the balance we placed into this bill to make sure that it functions, that it is practical, that it works, is overladen with one salient demand upon those in America and around the world who think they can ignore the perils that the air faces when we think we have the right to pollute. And that is a demand that pollution shall cease, not that it shall be turned back or diminished, but that it shall eventually cease in our land.

The message is: You have no right to pollute something so sacred as the air.

As soon as that message is heard and received through this bill, the sooner this Nation's and this world's air will be safer for our children and future generations to come.

We have worked out some delicate balances, we are still working them out, in alternative fuels, for example, and we are still working them out as we debate what to do with chlorofluorocarbons in the delicate and difficult situation of weeding out those chemicals that have the perverse impact upon the Nation's ozone, our protection against ultraviolet rays. We are trying indeed to work out the rest of the problems, but this bill is a great step forward and a reminder to America that all of us can come together once in a while and put our parochial interests aside and do something good for America and for this world.

This bill thinks globally, and it calls upon us to act locally. And it calls upon Americans and the world to begin putting an end to pollution of so sacred an element as the air we breathe.

Mr. Chairman and Members, we will have some debates on this floor; we will still have some differences, but I am proud of our Committee on Energy and Commerce and I am proud of this bill. It is a great piece of legislation. We shall make it better in our debates.

When we are finished, America and this world will be a better place for it.

Mr. LENT. Mr. Chairman, I am pleased to yield 5 minutes to the gentleman from North Carolina [Mr. McMILLAN], who played a very important, key role in seeing to it that provisions were inserted into this legislation that protected our Nation's industries against foreign competitiveness.

Mr. McMILLAN of North Carolina. I thank the gentleman for yielding.

Mr. Chairman, few of us would question that we live in the decade of the environment.

In the last two centuries, our country has experienced enormous growth and prosperity, but we are quickly realizing that growth and success can overwhelm nature's beautiful and resilient balance.

Historically, we have taken clean air, clean water and clean land for granted. We've produced, consumed, driven and dumped as if our natural resources were a constant. Only in the last 20 years have we begun to wake up to reality.

Clean air legislation has been stagnated in the Halls of Congress for over 12 years. At the initiative of President Bush, the committee chairman and ranking Republican, and many Members concerned about the environment, this issue is back on the front burner. This House is now on the verge of passing a comprehensive clean air package.

I am proud to serve on the Energy and Commerce Committee, which, I believe has put together a tough, practical bill. H.R. 3030, as compared to S. 1630, the Senate version, has been given good reviews by both environmentalists and industry.

We should not dilute our duty to be environmentally disciplined and economically sound at the same time. I believe that tough standards can be compatible with flexibility built into the means. In fact, part of our challenge is to stimulate alternative and competitive means of meeting these standards. For the most part, H.R. 3030 embodies this philosophy.

I have long been concerned about the implications of tough environmental standards on competitiveness. The gentleman from Washington and I were able to amend H.R. 3030 unanimously in committee by a provision requiring the President to report back to Congress on ways to address trade imbalances that may result from the costs of complying with this bill. In effect, we must create a level playing field between U.S. business and our trading partners. The bill requires that the President develop a strategy to negotiate with our trading partners to either adhere to equal environmental standards or accept trade adjustments to avoid penalizing domestic producers.

While I could continue praising the committee's tremendous efforts, which resolved many differences, in markup I want to warn my colleagues that floor amendments to "toughen or weaken" the bill destroy the delicate balance between economics and environmental concerns embodied in its present form.

In closing, I would like to remind all of us of our individual responsibility in this challenge to clean-up our environment. Government can clean its own environmental waste and react legislatively to the pollution caused by society. But prevention rests essentially in the people's hands. We are on the threshold of adopting and enforcing the toughest clean air standards in the world. There is no free lunch. I hope the public is prepared to pay the price. I urge my colleagues to support H.R. 3030 as reported.

Mr. SWIFT. Mr. Chairman, will the gentleman yield?

Mr. McMILLAN of North Carolina. Mr. Chairman, I yield to the gentleman from Washington [Mr. SWIFT].

Mr. SWIFT. Mr. Chairman, I thank the gentleman for yielding.

Mr. Chairman, I would like to commend the gentleman for the amendment that he offered to this bill. It recognizes that if this country did everything you could conceivably imagine environmentally right, the world would still have an environmental problem and that we need to provide two things: Leadership to the world for all industrialized nations to begin to address their air, water, and land pollution problems the way this country is; and, second, to protect our industry which is incurring those costs to meet those environmental standards so when they go into the world they are not at a competitive disadvantage.

□ 1500

I think the gentleman's amendment to this legislation is an excellent first step in this country assuming that leadership role.

Mr. McMILLAN of North Carolina. Mr. Chairman, I thank the gentleman for his contribution and his comment.

Mr. WAXMAN. Mr. Chairman, I yield 7 minutes to the gentleman from Ohio [Mr. ECKART].

Mr. ECKART. Mr. Chairman, there was a TV commercial so many years ago when I was a child, and the jingle went, "They said it couldn't be done, they said nobody could do it." Well, the fact is that for a number of years about the Committee on Energy and Commerce, and certainly about the Clean Air Act, "They said it couldn't be done, they said nobody could do it." The fact is that it has been done and we did it. We did it in a way that removed some of the most difficult and contentious issues, after a difficult and intense negotiation into the arena of compromise.

A compromise, of course, is the glue of the political process, but in order to get compromises your way, Members have to give them the other way. For years, if any Member mentioned "Clean Air Act," we instantly thought about air toxins. We have a tough air toxic provision, and to my colleagues from the Great Lakes, let me point out to those Members that the gentleman from Minnesota [Mr. SIKORSKI] and I and others have drafted a Great Lakes air toxic provision. We included the Chesapeake Bay area because of its peculiar circumstance. This provision will give Members the tools we need in this next decade to address the single largest source of air toxics making their way into our watershed.

For years, if Members said "the Clean Air Act," they talked about acid rain. Gosh, I never would have bet that I would have found myself in a committee supporting a compromise on dealing with acid rain, drafted by my colleague, the gentleman from Indiana [Mr. SHARP], with the aggessive support of virtually every other regional interest in our committee. We struck an appropriate balance that preserves the environmental integrity of the program while reflecting the pecular economic circumstances of our region.

For years, if Members said "The Clean Air Act," it meant we had to talk about tailpipe emissions. If any Member had ever told me that a John Henry agreement could be struck on tailpipe emissions, I would have said the heavens would have had to part the skies, the Earth would have rolled, the clouds would have rumbled. However, in fact, they did. In merging that agreement to deal with tailpipe emissions, we held the environmentalists to their standard, and the auto companies to their word. To ensure that the sources of mobile air pollution really are responsibly and reasonably addressed was no easy task. In fact, the administration and the environmentalists and those Members of Congress representing significant industrial production of American automobiles, realized that the Clean Air Act had to include mobile source controls as part of that solution.

For years, when we said "The Clean Air Act," we talked about what initially promoted the act, and that is urban smog. The provisions of urban smog and pollution control were contained in title I. That was perhaps the most difficult provision to start the debate, because, frankly, it had been the most contentious for the longest period of time. Debated at first in the early 1970's, legislated first in the late 1970's, it has escaped the ability to find the compromise that is essential to moving a piece of legislation forward.

Mr. Bush, our President, broke a little bit of that deadlock when he submitted a bill. To his credit, the Congress is responding to this Presidential initiative. To break the legislative logjam, a group of Members on the Democratic side who became affectionately known as "the Group of 9," or "G-9," decided to try to bridge the differences between the competing Democratic interests in our Caucus, and fashioned a compromise that became the basis of the title I provisions. It is a significant effort and a major step forward. We redefine and create special ozone classifications and deadlines—marginal, moderate, severe, serious, and extreme—so that each peculiar community can tailor-make the provisions to the peculiar nature of their problems. A graduated system of pollution control programs is put in place with the maximum achievable technology to back it up. We require a larger control of more substances, and we reduce the levels that they need to be reduced to. We put milestones in place, because as we discovered from the law that had been in effect for so many years, we found that in a conclusion of a particular period of time, a particular community still had not met the deadlines. Everybody wanted to know why, and what was next.

Now a system of 3-year milestones will be established to ensure that the areas achieve reasonable progress toward their ultimate goal, and we do not find ourselves in main deficit at the end. We have important sanctions in place as well. Not easily agreed to, because after all, a law without any teeth is probably worse than no law at all, because it creates the pretense of protection where none would, in fact, exist. However, the sanctions are meaningful, they are tough, but they are fair.

Mr. Chairman, we have had a lot of studies. Oh, I suppose we could study more. We have had lots of talks. Over the next few days we will talk even more. But the fact of the matter is, we have had enough delay and enough excuses when it comes to improving America's air. Also, like another TV commercial, "We can pay for it now or we can pay for it later."

There is not a district in which each Member is elected that is not going to be required to pay a price for the passage of this bill. We all want clean air, but it is a little bit like all Members wanting to go to heaven, but not wanting to die to have to get there. Yes; our constituents will pay some for clean air. But they will pay dearly more with unabated pollution, depriving children of greater lives, elderly of more fruitful lives, and all people of better lives, because when we had a chance to make a difference we chose not to. Today this Congress, this committee, brings to Members a bill that does make a difference, a bill that will be able to tell all of our children that we had a chance, we worked hard to improve the quality of life and the quality of air for themselves and for future generations as well. I appreciate my colleagues' support of this bill.

Mr. LENT. Mr. Chairman, I yield 5 minutes to the gentleman from Utah [Mr. NIELSON], a member of both the Subcommittee on Health and the Environment and the Subcommittee on Energy and Power.

Mr. NIELSON of Utah. Mr. Chairman, I rise today to support H.R. 3030, the Clean Air Act Amendments of 1989.

This bill received a 42-to-1 vote in committee, and as been mentioned many times today, is the result of much compromise.

My first introduction to the clean air bill was not as the gentleman from Ohio [Mr. ECKART] first described on the toxic area, but rather the acid rain part. I felt particularly interested in

that area because I felt the 1977 act discriminated against the clean coal States, which I represent, by requiring a same percentage reduction even when they have very little sulfur dioxide, as when they had a lot of sulfur dioxide. In fact, our coal was cleaner before scrubbing than the coal in the Midwest. I think that is totally unfair to have the same percentage reduction. I opposed the first bill which came up which was basically a half mil a kilowatt cost on every subscriber throughout the country with electrical facilities, whether hydro, nuclear, or coal-fired. I preferred, instead, the approach by our colleagues at that time, Mr. Cheney, and the gentleman from Arizona [Mr. UDALL], which was basically polluter pay, but let them pay in the cost-effective way.

This bill we have today has preserved the polluter pay principle by and large. It has given them some ways to do it, and some incentives and other things to soften the blow, but it is definitely polluter pay, which I think is important. While it does not go quite as far as I would like to see it in terms of being fair to the States which already made much of the sacrifice, I still can support the bill.

□ 1510

The Clean Air Act of 1970 proposed regulations on the existence of a new source in order to decrease air pollution. It established a national ambient air quality and ordered States to design plans to achieve it. The act also sets up performance-based standards for new sources.

As my colleague, the gentleman from Colorado, said, the West has done more than its share in this area. My own State went with wet scrubbers rather than dry, and we have cut our pollution way down. The sulfur dioxide emission from our goal-fired electric plant is the lowest in the Nation by a factor of 2 or 3 over any other States, and we are very proud of that.

At any rate, in 1977, the percentage reduction was something that did give us concern, but there were other attempts to amend the act ever since that time. The 1985 attempt was to let the Governor decide politically how to handle the problem, and that had some concerns as well as the various regulatory agencies.

So now we have this bill, and I think we should give credit for its due to the committee which worked very hard. Members of the committee who should be commended include the gentleman from Michigan [Mr. DINGELL], the gentleman from New York [Mr. LENT], and the gentleman from California [Mr. WAXMAN], who have been mentioned, but there are many others who played a significant role on this bill, and we should have to name about 40 Members, in fact, most of the committee, in order to give proper credit. Most all of the Members have offered amendments and participated very well in this work. I think a lot of credit, however, should go to President Bush. Had President Bush not presented the bill, this H.R. 3030, had he not received 160 cosponsors through the efforts of the gentleman from Michigan [Mr. DINGELL], the gentleman from New York [Mr. LENT], and others, we would never have gotten this bill off the ground. It would have had the same fate as previous bills.

Great compromises have been struck. While I do not agree with everything in the bill, I still feel that the NAPAP study which is coming next year should be looked at. I think we are overestimating the amount of sulfur dioxide we have, and I think we should take a look at that. I have an amendment that covers that particular aspect of it.

I do not think we have covered the PM-10 program quite as adequately as we should. We have some double counting, and we have some double penalties in various parts of the bill that need to be straightened out. We have an amendment that we think will take care of that problem.

While I believe that there are some other aspects of the bill such as having visibility over parks, I have been able to work with the gentleman from Oregon [Mr. WYDEN], the gentleman from Colorado [Mr. SCHAEFER], the gentleman from Virginia [Mr. BLILEY], and the gentleman from Oklahoma [Mr. SYNAR] on this issue. I think we have come up with a compromise we can all live with.

Let me suggest that the unsuccessful attempts of the last decade were probably necessary to get us in the frame of mind where we could do something. This is a very costly bill. Everyone will have to pay, as has been mentioned. The Committee on Energy and Commerce has met over many hours, not only in this session but in previous sessions, debating the legislation in order to bring the bill before the House. I would like to suggest that had there not been a spirit of compromise, we would not have the bill before us on the floor. We all feel that this is the year to do it. If we do not do it this year, it will never get done. And that may have been the case. If we had not had a commitment from all parties, from the most conservative to the most liberal, working together, we would not have a bill today.

I would like to thank all the Members for their efforts in this process, and I would also like to thank the staff that spent long hours to work out the details. We would often meet with the staff and say that this is what we want to do, and then we would go on to our other activities and make them work overnight and over the weekends to achieve our ends. I think they deserve a good bit of credit. I would single out on my staff Ruth McCormick and Jayneanne Rex for the work they have done, and I would commend others before them.

We have done well on unattainment, antitoxics, and acid rain. As I indicated, PM-10 is an issue.

I believe the provisions of this bill are greatly strengthened through committee action. We have met the President's five tests of balance and reasonableness. While I do have a few concerns that I have mentioned, overall I feel this is a good bill. It provides us with a program necessary to address the air pollution problems of this country and to achieve better air quality for the American people.

Mr. Chairman, I hope we can pass H.R. 3030 through the House this week and shortly return it to the Senate and also send it to the President for his signature.

Mr. SWIFT. Mr. Chairman, I yield 5 minutes to the gentleman from Kansas [Mr. SLATTERY].

Mr. SLATTERY. Mr. Chairman, Edmund Burke once said that all government, indeed every human benefit and enjoyment, every virtue and every prudent act is founded on compromise.

The legislation before us today is an example of such a compromise. As we have already heard, the Clean Air Amendments of 1990 is the product of months of agonizing negotiations and work by the Committee on Energy and Commerce. As is always the case with negotiations, neither side got all of what it wanted, but I believe the American people will get a good clean air bill this year that will make a giant and a historic step toward cleaning our Nation's air. The legislation before us is clearly the most important environmental legislation to be considered by this body in the last 5 or 6 years.

This legislation contains new tough auto emissions standards which are needed to reduce urban smog in our Nation's cities. Under this legislation—and I ask the Members to please keep this in mind—98 percent of carbon monoxide emissions, 98 percent of hydrocarbon emissions, and 90 percent of NO_x emissions will be eliminated from new automobiles by the year 2000. Needless to say, this is a major achievement that we all take pride in.

With the passage of this legislation, we will regulate acid rain for the first time in our Nation's history. The acid rain section in this bill will bring about a 10 million-ton reduction in sulfur dioxide emissions and a 2½ million-ton reduction in NO_x emissions by the year 2000. This is undoubtedly the toughest acid rain bill to come before this body, and certainly it is far tougher than most would have imagined just a year ago.

I am particularly pleased that those areas like my State of Kansas that have already spent hundreds of mil-

lions of dollars to reduce SO_2 emissions will not be penalized by some cost-sharing plan to help pay for the cleanup in other parts of the country where they have not cleaned up their SO_2 emissions.

Mr. Chairman, in the last 20 years only 8 air toxics have been regulated by the Environmental Protection Agency. Under this legislation, 191 air toxics will be subject to national achievable control technology by the year 2000. That is again tremendous progress.

Some may think this legislation does not go far enough in cleaning up our Nation's air. I am absolutely convinced that when my colleagues have a chance to carefully review this legislation, they will conclude, as I have, that this is a tough clean air act, one that will require American business and industry to make tremendous changes to come into compliance, and it will make a great step toward cleaning up our Nation's air. As we commence this important debate, I am hopeful we can resolve remaining differences on alternative fuels and accidental releases and mandate the production of clean air autos.

Mr. Chairman, outside experts have compared this bill with the President's bill and with the bill passed by the other body. They concluded in H.R. 3030 will do more to clean our Nation's air than the other proposals, and it will achieve this goal at a lower cost. This, as far as I am concerned, is the best compliment that anyone could pay this bill, and that is why we should pass H.R. 3030. The Committee on Energy and Commerce has worked as a congressional committee should work in handling this legislation. The members of the committee listened to their colleagues and attempted to respond in a thoughtful and responsible manner to the differences and to advance at all times our goal of cleaning our Nation's air in the most cost-efficient manner possible. That is why the vote out of committee was an overwhelming bipartisan vote of 42 to 1.

It was a pleasure to work with my colleagues on the committee and with the great staff on our committee and the individual Members who worked with us. Certainly the chairman of the full committee, the gentleman from Michigan [Mr. DINGELL], the chairman of the subcommittee, the gentleman from California [Mr. WAXMAN], and the gentleman from New York [Mr. LENT] and the gentleman from Illinois [Mr. MADIGAN] on the other side and the group of nine, including the gentleman from Louisiana [Mr. TAUZIN] and all the others who participated in this legislation, in preparing this legislation, should be recognized for their extraordinary efforts. Also the staffs, as has been noted already, expended countless hours to get to this point today, and they should be commended.

So, Mr. Chairman, I urge my colleagues' support for this legislation, and I hope as we debate this issue in the days ahead, we will keep in mind the need for us to maintain the delicate balance we worked so hard in the Committee on Energy and Commerce to achieve.

Mr. LENT. Mr. Chairman, I am pleased to yield 8 minutes to the gentleman from Florida [Mr. BILIRAKIS], a member of both the Subcommittee on Health and the Environment and the Subcommittee on Energy and Power.

Mr. BILIRAKIS. Mr. Chairman, today we are approaching a moment of decision. Following the discussion and debate today, this body will move to consider a broad revision and strengthening of the existing Clean Air Act.

We have therefore arrived at a moment of environmental action as opposed to environmental posturing. We have arrived at a moment where slogans no longer matter, but actual legislation will determine the quality of air in our cities and towns during the next decade and beyond.

During the floor proceedings this week, we will commit this Nation to a course of action which should help clear our skies of smog, particulates, acid rain and hazardous air pollutants. We will therefore renew not only our verbal commitment to clean air, but the legal framework to force a substantial and sustainable reduction in airborne threats to public health and safety.

Mr. Chairman, I cannot help but to note that words similar to mine have been spoken in this Chamber before. Indeed, the enactment of the original Clean Air Act brought with it excitement and expectations that later proved misplaced. While elements of the original law worked and worked well, the law did not bring about a comprehensive framework to address all air quality problems. The hopes and theories of the original law did not account for every contingency or the complexity of controlling many discrete sources of pollution.

One could easily be cynical again. Throughout the process of marking up and delivering a bill to the floor, we have repeatedly heard that certain measures within H.R. 3030 or various amendments to the legislation are inadequate to the task of protecting current and future generations from pollution.

This is part of the process of legislation, but I think this perspective can sometimes ignore the real world as much as the hopes of the founders of the Clean Air Act were not borne out in regulatory practice. What we sometimes overlook is that the bill before us builds on 2 decades of experience, nearly 20 years of promulgating and enforcing clean air regulations.

As opposed to either the original act or the 1977 amendments we have a better legislative perspective now on what works and what doesn't work. During our committee mark up, we were well aware of the mistakes of the past and sought to draft responsible and responsive legislation to avoid historical problems in enforcement of clean air regulations.

Standards in the bill are more tightly drawn; grants of discretionary authority explicitly tied to environmental goals. The bill not only controls acid rain, it attains and guarantees a 10-million-ton reduction in SO_2 through the allowance system.

The bill further requires maximum control technology for nearly 200 air toxics as opposed to the relative handful that have been regulated under existing law. Ozone attainment strategy is restructured and set on a new timeframe to clear smog from our cities and metropolitan areas.

In particular, I was pleased to be a part of subcommittee negotiations to arrive at new auto and light duty truck emission standards. In my home state of Florida, clogged highways and a tremendous influx of new residents has accentuated an underlying increase in vehicle miles traveled.

The operation of cars and trucks represents the most pervasive threat to general air quality in my State. The successful subcommittee negotiations I participated in with Representative TAUKE, ranking Republican LENT, and Chairman DINGELL and Subcommittee Chairman WAXMAN served to resolve this longstanding and very contentious issue. Indeed, I believe they helped guarantee our presence here today and helped promote the spirit of negotiation and compromise which aided our committee in proceeding with other titles and other clean air issues.

Additionally, although title V of the bill represented a most difficult and complicated issue, I believe we take a historic step in H.R. 3030 in controlling the precursors to acid rain. During the 99th Congress, I was an original cosponsor of H.R. 4567, acid rain legislation introduced by Subcommittee Chairman WAXMAN. I also negotiated amendments to the legislation and voted to report the bill from subcommittee—until last year the first time acid rain legislation had progressed from committee in Congress.

We were unsuccessful in this 1986 effort, but H.R. 3030 built upon our initiative and services to ensure a substantial reduction in utility SO_2 and NO_x emissions. I think this is both a tribute to Chairman PHIL SHARP, to the consistent work of the health subcommittee and to the Bush administration which proposed the strictest acid rain legislation ever considered in Congress.

I must say that our committee was not successful in resolving all issues. Indeed, it may require floor action this week to settle the problem of air emissions from offshore oil and gas exploration and production. While such emissions represent largely a future threat to Florida—one we hopefully will not face—it makes little sense in my mind to distinguish between onshore and offshore facilities that may contribute to coastal air quality problems.

Due to jurisdictional requirements, an outer continental shelf amendment was not possible during our committee's consideration of H.R. 3030. I therefore intend to pursue this matter with my own amendment or to join forces with other members concerned with the issue. In either event, we cannot allow offshore activities to negate onshore gains in air quality.

Altogether, I believe our country and our citizens have benefitted from a maturation of environmental science and environmental law. Clean air legislation, as other environmental law, presents a unique blend of science and legal theory, of technological development and consideration of societal behavior, of incentives and penalties aimed at influencing compliance and of public health presented by pervasive environmental conditions. This is an immense challenge for legislative drafting and parliamentary consideration. I think H.R. 3030 as amended by committee and with further amendments on the floor will largely meet this challenge and meet our responsibilities to our citizens.

The bill before us is not perfect. Indeed, any complicated and controversial legislation avoids elevation to the beatific ideal. But we should recognize this imperfection for what it is and no more—a product of the legislative process and the endless hours of negotiations which led to floor action this week. Imperfection is, in many ways, the price of legislative success. Many perfect bills die in committee at the end of each Congress.

This is not to say that further progress cannot be made through amendments this week or within the likely House/Senate conference. It is merely to note that a legislative journey of this magnitude is subject to more than a few difficulties.

I cosponsored and voted for H.R. 3030 in the Health Subcommittee and in the full Energy and Commerce Committee. Barring currently unforeseen and destructive amendments, I intend to support approval of the bill in the full House later this legislative week.

In doing so, I will make no formal predictions other than to say that I believe the air we and our children breathe will improve considerably under this legislation and that the annual cost of well over $20 billion will be fully justified on the basis of our collective well-being.

I was not in Congress when either the original clean air law or the 1977 amendments were approved. But we necessarily build on the foundation of what went on before our service in this body and the legislation today will help to improve and preserve a structure of environmental protection and conservation. I urge my House colleagues to move with all due speed and to let the legislative process in the House take the next step in approving a new clean air bill for the rest of the decade and into the next century.

□ 1520

Mr. SWIFT. Mr. Chairman, I yield 5 minutes to the gentleman from New Mexico [Mr. RICHARDSON].

Mr. RICHARDSON. Mr. Chairman, this is monumentally important legislation. The law was last amended in 1977, and, while progress has been made in resolving some air quality problems, others have proved intractable.

In fact, Mr. Chairman, levels of certain pollutants have actually increased in some areas over the past two decades. New problems, not anticipated in the original legislation, have emerged.

According to EPA, 121 million Americans live in areas where pollutant levels currently exceed at least one of the health based quality standards established under the Clean Air Act. Air pollutants cause a variety of adverse health and environmental impacts, and among these are respiratory problems, cancer, birth defects and other diseases in humans; damage to vegetation, which can reduce farm and forest productivitiy, and declines in fish and wildlife populations.

Mr. Chairman, over the last decade Congress has worked to develop amendments to the Clean Air Act that would resolve outstanding problems such as controlling the ozone smog in urban areas and emissions of toxic chemicals from industrial plants and other facilities and address also relatively new ones such as acid rain.

The process was expedited somewhat in 1988 when President Bush submitted proposals saying that we must have clean air legislation, something the Reagan administration had never done. In fact, it said that we only need more research on what is causing monumental neglect to our entire stratosphere.

During deliberations in the Committee on Energy and Commerce, a lot of my colleagues recounted that bipartisan compromises have been reached on many key elements of the bill including revised schedules and mechanisms for achieving Federal air quality standards in polluted areas, tougher tailpipe emission standards for motor vehicles and a new system of technology based control on emission of hazardous pollutants.

Mr. Chairman, although several issues remain controversial, it does appear that we have a good clean air bill. Clean States have gotten a fair break. Polluting States have gotten a fair break. "Polluter pays" is the concept of this bill.

Mr. Chairman, I think a lot of people have talked about all the Members that have worked on this legislation, and I will do so at the end of my statement.

□ 1530

Mr. Chairman, I wish to raise three issues that I have been involved with in the clean air debate, two of which will be offered as amendments in the next few days.

First of all, on acid rain, the bill also contains several amendments that I offered during committee markup with respect to independent power producers. The next 10 years will be an important transition period for the Nation's clean air and energy supply goals. Old powerplants are going to have to be replaced by new clean facilities. Independents have proved to be a clean, reliable source of electricity, accounting for about 4 percent of the Nation's electric supply, with a potential to provide a far greater share.

The bill ensures a competitive market for these independent power producers.

Mr. Chairman, I also wish to take the opportunity to ask my colleagues' support for an amendment that I will be offering with the gentleman from Illinois [Mr. MADIGAN] on reformulated gasoline. Thankfully, there has been a bipartisan compromise in the committee struck so that a lot of the contention hopefully will be reduced. Nonetheless, it will be a provision that will be opposed by some.

There has been a very nasty public relations campaign against this amendment, ranging anywhere from $2 to $21 million, mainly by the American Petroleum Institute, using in many cases statements that were not true, using exaggerations about what this amendment does.

Mr. Chairman, I will now explain what this amendment does.

First Richardson-Madigan will require the use of reformulated gasoline in the nine worst ozone nonattainment cities. Other cities may opt in as the program gets under way.

More importantly, gasoline sold in these cities will contain 15 percent less ozone forming compounds and toxic air pollutants respectively.

Additionally, all 44 carbon monoxide nonattainment cities will be required to sell gasoline containing a minimum oxygen content level of 2.7 percent to reduce carbon monoxide to healthy levels.

Among others, our amendments addressed two of the major concerns expressed by the oil industry, yet they persist in opposing this amendment. These include the charge that the amendment mandates a recipe for reformulated gasoline and that the amendment will increase nitrogen oxide emissions.

On the first point, our amendment establishes minimum standards to reduce ozone forming and toxic compounds. So long as equivalent or greater emissions reductions are achieved, oil companies are free to formulate their fuels any way they choose.

On the second point, our amendment specifically prohibits a fuel from being certified for sale if it results in increased ozone or nitrogen oxide emissions.

In short, this amendment has substantial environmental and health benefits by controlling ozone forming and carcinogenic air toxic compounds, trade and economic benefits by reducing dependence on foreign oil and it expands the domestic renewable fuels industry.

There have been 11,000 accidental releases of toxic chemicals in the United States between 1980 and 1987. As a result, more than 300 have died and more than 10,000 were injured.

The United States has had 17 different toxic accidents with potential effects greater than the Bhopal, India catastrophe.

The amendment that I will be offering with the gentleman from Texas [Mr. BRYANT], the gentleman from Kansas [Mr. SLATTERY], and the gentleman from Texas [Mr. BARTON], requires the EPA to establish a list of at least 100 accident hazardous chemicals.

Moreover, EPA would be required to promulgate rules establishing risk management plans to detect or minimize accidental releases.

Mr. Chairman, this is monumentally important clean air legislation. Credit should go to the gentleman from Michigan [Mr. DINGELL], the gentleman from California [Mr. WAXMAN], the gentleman from New York [Mr. LENT], and many others.

But also, Mr. Chairman, it should go to those who labored in the vineyards for years. One of those is my colleague, the gentleman from Minnesota [Mr. SIKORSKI]. The noted radio humorist, Garrison Keillor, said that GERRY SIKORSKI's first words when he was born were, "Stop acid rain." The genetleman from Minnesota [Mr. SIKORSKI] will be doing this after this legislation passes.

Mr. LENT. Mr. Chairman, I yield 5 minutes to the gentleman from Iowa [Mr. TAUKE], a member of the Subcommittee on Health and the Environment of the Committee on Energy and Commerce, who really has done an outstanding job. He has been a moderating force in bringing all sides together during the committee deliberations on the bill, and he deserves a great deal of credit.

Mr. TAUKE. Mr. Chairman, I thank the gentleman for those kind comments.

Mr Chairman, it is indeed a pleasure to be here today to have an opportunity to participate in the debate on the floor on the Clean Air Act. Some of us felt that we would spend a career getting to this point, and indeed some Members of the Congress have spent a career attempting to insure that we enact meaningful and worthwhile clean air legislation.

I want to join with all my colleagues in throwing kudos at the other members of the committee and myself, and also particularly commending the chairman of our committee, the gentleman from Michigan [Mr. DINGELL] for his strong leadership; the chairman of the subcommittee, the gentleman from California [Mr. WAXMAN] for his leadership on the issue.

Mr. Chairman, while there has been a lot of discussion about the differences of viewpoint on the other side of the aisle and the heroic work that was done to bring people together on that side of the aisle, I think that it is important to note that we also had a very strong leader on the Republican side of the aisle, the gentleman from New York [Mr. LENT], because you see, there were some fairly deep divisions among the Republican members of the committee as well. Because of his strong leadership and because of his patience and because he is generally a good guy, he brought the Members together in the way that permitted us to move forward.

Mr. Chairman, there has been quite a bit of discussion about the cost of this legislation, some pointing out that it will be very costly to the consumers and to industry and to the workers of the Nation. There has been very little discussion, however, about the cost of not doing anything, and when push came to shove perhaps that was the motivating factor for many Members of Congress, that the cost of not acting on clean air legislation was actually greater than the cost of enacting a good clean air bill.

We know, for example, that the cost would be very high in the area of health. Just in terms of dollar cost, failure to act in clean air legislation would mean an additional $100 billion in health care costs over the next two decades. That would result from increased respiratory disease, increased cancer, increased lead poisoning of our people; but it is not just in the health care arena that the cost would be high. The cost would also be high economically.

A recent Federal study said that failure to deal with the problem of air pollution would result in an annual loss of 5 to 10 percent in our crops. That means a cost of $5 to $6 billion in annual crop losses if we fail to act to control pollution.

The cost of cleaning up acid rain would be $80 billion if we failed to do something about controlling the pollutants that cause acid rain.

I say these things only to put the cost of this legislation in perspective. Yes, there will be a cost that will have to be borne by our economy, all parts of our economy, but the cost of not acting would be even greater than the cost of taking action by passing this legislation.

Having said all these things about the clean air bill, I think it is also important to note that there is a lot of uncertainty about just what we are doing and just what the impact will be. We would all like to be here and say that we know precisely that the standard that we are setting in this legislation is correct and the methods we have used to achieve the goals established in this bill are proper, but we do not renew that. That is why this committee worked very hard to set reasonable goals for the cleanup of the air and provide as much flexibility as possible in attaining those goals.

I think that the leadership that was ultimately provided by all the members of the committee on this issue has moved us into a position where we have a bill which sets goals that we can all be proud of, that are attainable, but also will do an awful lot to clean up the air, while at the same time ensuring that there is enough flexibility in this legislation to make it workable.

Finally, I would like to observe, Mr. Chairman, that this legislation is enormously complex.

□ 1540

Because it is enormously complex, there are very few people sitting on this floor who understand what is in the bill, who understand how it will work. Our job will not end when this legislation passes this House and moves through a conference and heads down to the President's desk. At that point there will still be an awful lot of work to do to continue to monitor the implementation of this legislation, perhaps change it from time to time in order to make sure that it works well, and that we adapt it to the increased knowledge that we will gain as time goes by.

But while there is uncertainty and while there is a lot of complexity, this is a giant stride forward, and all of us from the President down to the lowliest Member in the House can take great pride in the fact that we have worked together to do something that will be good for the Nation.

Mr. WAXMAN. Mr. Chairman, I yield 7 minutes to the gentleman from Oregon [Mr. WYDEN].

Mr. WYDEN. Mr. Chairman, I want to thank the chairman of the Health Subcommittee and commend him for all the good work that he has been doing for this whole decade.

Mr. Chairman, millions of vulnerable Americans, kids and seniors and those with respiratory diseases, are being forced to breathe dirty air every single day. From coast to coast, unhealthy air is getting into the nooks and crannies of our Nation, and it is time to take strong action to stop these dangerous health practices.

This legislation is going to get our country moving in the right direction again, and I want to commend our colleagues on both sides of the aisle for all of their efforts.

I would like to touch on just a couple of the provisions that have not been discussed by other Members, because I think they are important. One such part deals with our small businesses. This legislation is going to regulate small businesses as never before under air pollution law. Many of our small businesses have never been exposed to the maze of air pollution control regulation and will now find themselves right in the center of these programs.

Our committee recognizes that it makes good environmental sense and good economic sense to try to assist these small businesses.

In the subcommittee we adopted an amendment I authored authorizing an information clearinghouse to help small businesses understand their obligations under the law. In addition, in the full committee, the gentleman from Viriginia [Mr. BOUCHER] and I authored legislation to create programs to help small businesses through the air permit labyrinth. These programs will allow permits to be tailored to the needs and limitations of small businesses without relaxing the environmental goals of the law. The result is both the environment and the economy will benefit.

I am also very pleased about the air toxic provisions in the legislation. One of the reasons we are here today is because EPA has literally dragged its feet for decades on regulating air toxics.

In my home State of Oregon in a recent year, industry released over 1 pound of carcinogens into the air for every single person in the State.

The bill as introduced would have assured regulation of only half the major industrial sources of these pollutants. I'm pleased that the committee has agreed to a version that will regulate all major sources.

At the same time, the legislation will give EPA the flexibility to put together a system that works. EPA will be able to tailor standards by categories and subcategories of industrial sources, requiring the maximum controls from each. It is a tribute to the efforts of the chairman, the gentleman from Michigan [Mr. DINGELL], and the other members of the committee, that the experts have said that, compared to the Senate's toxic bill, our provision will do more for the environment yet cost less in the long term.

The other provision that I would like to touch on, and it will be the subject of a specific amendment later in the week, is the question of wilderness protections, protection for our parks and spectacular national treasures. I am very pleased to report to the Members that this weekend a bipartisan group of Members, the gentleman from Virginia [Mr. BLILEY], the gentleman from Oklahoma [Mr. SYNAR], the gentleman from Utah [Mr. NIELSON], the gentleman from Washington [Mr. SWIFT], the gentleman from Colorado [Mr. SCHAEFER], the gentleman from Indiana [Mr. SHARP], the gentleman from New York [Mr. LENT], the gentleman from California [Mr. WAXMAN], and the gentleman from Michigan [Mr. DINGELL], all worked very hard to come up with a compromise on this difficult and contentious issue, and with the help of the gentleman from Massachusetts [Mr. CONTE] and the gentleman from Minnesota [Mr. VENTO], we are going to be offering an amendment on the floor that will allow us to protect this Nation's sparkling jewels.

Our amendment, in brief, establishes a special Western park pollution program to address the twin problems of manmade haze and plume blight. For regional haze control, the amendment directs EPA to establish a regulatory program that will protect our Western parks. To deal with plume blight, EPA is directed to study large polluters that are located next to these parks and take appropriate action under existing law.

We update protection for newer parks, wilderness, and preserves. Parks created since the 1977 Clear Air Amendment would get the same class I protections as the older parks. New wildernesses, national monuments, and other preserves would be guaranteed to keep class II protection that they currently enjoy.

The legislation also gives the national park and wilderness managers greater input and influence in State and EPA decisions about whether to allow new polluters to locate near protected lands.

Mr. Chairman and colleagues, it is high time that we took these steps to protect our national parks.

Congress directed in 1977, that a full program of park protections be implemented and yet it is still not in place.

According to the National Park Service, in the Grand Canyon visibility impairment is likely to increase 400 percent on some days in the next few decades. At Glacier National Park in Montana, it could be upward of 500 percent. So it is very important that we go forward with these protections. As a result of the excellent bipartisan work over the weekend, we will be able to come to the floor with a bipartisan amendment to protect the parks and our other national treasures.

I particularly want to thank the chairman of the subcommittee, the gentleman from California [Mr. WAXMAN], who has helped this Member so much; our chairman, the gentleman from Michigan [Mr. DINGELL], as well, has been extraordinarily patient in this effort. I think many of the Members know that Chairman DINGELL has passed more environmental legislation than any of us on either side of the aisle. I also want to thank my friend, the gentleman from New York [Mr. LENT], who over the years has also been exceptionally patient for this important parks issue.

Mr. LENT. Mr. Chairman, I yield 5 minutes to the gentleman from California [Mr. LEWIS].

Mr. LEWIS of California. Mr. Chairman, I certainly appreciate my colleague, the gentleman from New York, yielding me this time.

I believe that I am the first noncommittee member to speak on H.R. 3030, and I do so to express my strong appreciation and support for the work that the committee has done.

I frankly feel somewhat obligated to demonstrate to the chairman, the gentleman from Michigan [Mr. DINGELL], and to my colleague, the gentleman from New York [Mr. LENT], exactly how I have become so involved in this issue when I do not work with them on their committee.

One thing I think the Members ought to know is that there is not a district in the country that is more affected by air pollution problems than my own. The San Bernardino Valley is surrounded by beautiful mountains, and for over 200 days a year, even though they are just a few miles away, one cannot even see those mountains because of the smog which moves by air currents from the west into our valleys. That air quality difficulty is a challenge that goes well beyond the question of whether one can see the mountains or not.

The impact upon people's health is very, very significant.

Beyond that, Mr. Chairman, some years ago it was my privilege, while a member of the State legislature, to serve as the chairman of a select committee dealing with air quality. In those days I had the chance to play a role in creating a major regional air quality management district that regulates most of southern California, a district that in many ways, has led the

country in terms of implementing policies designed to control the emissions of a stationary sources of urban smog.

I wanted to rise to express my deep appreciation and congratulations to both the chairman, the gentleman from Michigan [Mr. DINGELL], as well as to the gentleman from New York [Mr. LENT], for the work that they have done. The bill that is before us is a tough bill. Indeed, they have laid the foundation, I think, for the renewal of the Clean Air Act in a way that significantly refreshes our fight to clean the air.

Mr. Chairman, I would further like to express my appreciation for my colleague, the gentleman from California [Mr. WAXMAN], with whom I joined very early in this effort to renew the Clean Air Act. It is also appropriate to express appreciation to the administration for their effort and for the legislation they sent to the Hill earlier. I must say it was a much tougher piece of legislation than many of us ever expected to see at the beginning stages. It served as a very excellent foundation.

The value of a very tough Clean Air Act should not be underestimated.

□ 1550

I think we should understand from the beginning point that the auto and oil industries do not see their bottom line, their profit margin, as a means of cleaning the air. Therefore pressure often is necessary, and I congratulate those who have been responsive to these very important pressures.

I would like to close by making a brief comment about costs. There has been a lot of discussion of the cost of this package, the cost of implementing tough regulations, for example. Those costs are difficult to measure at best.

Having said that, if I failed to mention that there also is a cost factor involved in cleaning our air. That is the significant reduction in costs for health care products that will not develop for those children not impacted by poor future air quality. Indeed, our goal here is to renew the Clean Air Act in a fashion that will help all of our country. We must make certain that over the years ahead our air is improved and better for all of us in terms of our health.

Mr. WAXMAN. Mr. Chairman, I yield 6 minutes to the gentleman from Georgia [Mr. ROWLAND].

Mr. ROWLAND of Georgia. Mr. Chairman, this Clean Air Act is without a doubt one of the most complicated and far-reaching pieces of legislation Congress has ever attempted to enact.

As the chairman said earlier and others have repeated, it will impact every sector of our society and economy and its cost will be significant.

Very few can speak to every specific of this comprehensive compromise, but I would like to speak to several principles which were of concern to me and why, while I worked with my colleagues to reach agreement on a bill we could all support, yet still be true to our legitimate regional and philosophical differences.

First, I am a mortal man who must live on this earth as all of us must. My children and their children will have to live here. The environment must be protected if we are to survive. In that regard it is essential then that we all view ourselves as environmentalists and act responsibly in that role. That directive is what brought us to the table and was the guiding principle in our achieving our goals. I do not believe any of my colleagues came to these discussions as an antienvironmental type person. I certainly did not. But we all came with different ideas how best to achieve our goals.

Second, I am a medical doctor who took an oath to protect human health and cure illness when prevention was unsuccessful. Over the course of the years, medicine has changed; first from being able to effect only the most primitive of treatments or relief from pain to increasingly miraculous interventions, rehabilitations and cures to the final step of preventing the illness in the first place. This bill is, in my belief, the ultimate prevention technology. Costly but with benefits to be reaped well into the next century. Our progress in the clean air legislation will mean that we are no longer treating the symptoms, but we are working to prevent the disease, hazardous pollution and emissions.

Third, but no less important to my constituents back home, I was sent here to protect the interests of the citizens of Georgia on a more parochial level. Some would suggest that might be selfish and without place. However, that is why Representatives are elected in the first place. I would say what is good for my State is good for the country as a whole. There are many different ways to skin the proverbial cat, and I wanted to make sure my State lost as little blood in the process as possible. While the folks that I represent back home will be picking up a hefty tab, as will all the rest of our neighbors in the Southwest and the country, we have written provisions into this bill which acknowledge our right to grow as a State and improve our standard of living along the way.

Growth is an important aspect of our Nation's future. This is recognized in several passages of the bill which provide growth allowances for those who supply energy resources necessary for such growth. This is of paramount importance as no nation throughout history has been able to enjoy economic security without secure and plentiful energy supplies. The citizens of Georgia look forward to unprecedented economic growth, growth reflected in the currently higher than average demand for electricity.

Therefore, the compromises for growth contained in the bill are very important to me. But like any good Member of Congress and responsible representative of the people, I look forward to working with the other body to strengthening these provisions where possible.

For the time, however, this bill is an excellent product of our efforts to represent the Nation as a whole and her citizens individually.

Mr. Chairman, I want to congratulate the chairman of the Committee on Energy and Commerce, the gentleman from Michigan [Mr. DINGELL], the chairman of the Subcommittee on Health and Environment, the gentleman from California [Mr. WAXMAN], the ranking members of both the subcommittee and the full committee for the compromise and hard work that they have done. I think it is a job that is really to be recognized as well done, and I am glad to have been part of that process.

Mr: LENT. Mr. Chairman, I yield 10 minutes to the gentleman from California [Mr. MOORHEAD], the ranking member of the Subcommittee on Energy and Power.

Mr. MOORHEAD. Mr. Chairman, I rise today to speak in support of H.R. 3030, the Clean Air Act Amendments of 1990, and to commend the leadership of our committee—Chairman DINGELL, ranking minority member LENT, and Health and Environment Subcommittee Chairman WAXMAN—for their extraordinary efforts at moving clean air legislation through our committee and to the floor. The most notable accomplishments of this leadership and our committee has been the negotiated resolution of many difficult clean air issues. The committee crafted consensus solutions to the problems of urban smog, air toxics, acid rain, permits, enforcements, and visibility. This was a time-consuming and difficult process and I think all Members of the House, indeed the country, should be grateful to the committee's commitment to this process. And, of course, I would be remiss if I did not note that the Nation is in debt to President Bush for breaking a decade-long logjam by proposing comprehensive revisions to the Clean Air Act last June.

Mr. Chairman, I want to turn now to a description to two amendments I hope to offer on the floor. The first, the Cooper-Moorhead amendment, is a simple, but important amendment that will give scientists a critical tool to use to measure the impact of the most serious potential problem facing our planet. Global warming.

In many ways, the Clean Air Act Amendments of 1990 will go a long way to improve air quality in our Nation's cities, curtail acid rain, reduce pollution from the cars we drive, and limit toxic emissions from industrial plants. But, despite these improvements on a domestic level, we must still consider the effects our emissions may have on the global climate.

Scientists have disagreed about the scope and magnitude of global climate change from manmade air pollution, and much of that disagreement stems from lack of necessary data to assess the impact these emissions may have on the Earth's climate. The Cooper-Moorhead amendment helps fill this information gap.

The Cooper-Moorhead amendment will require U.S. utilities to monitor their emissions of carbon dioxide, which many scientists believe to be one of the major contributors to global warming.

Although many scientists estimate that utility emissions account for roughly one third of our Nation's contribution to global carbon dioxide emissions, EPA does not collect data on these emissions and the current Clean Air Act does not require these emissions to be monitored.

Whether manmade carbon dioxide emissions actually increase the Earth's temperature will continue to be a hotly contested issue, but we can hardly expect to make responsible decisions about controlling these emissions if we fail to take the necessary steps to improve our understanding of the magnitude and rate of increase in these emissions.

The Cooper-Moorhead amendment will also give us a head start if and when we need to take steps to reduce our carbon dioxide emissions. By establishing an early baseline of carbon dioxide emissions for our domestic utility companies, we will put the United States in a position to take credit for its efforts to control emissions.

Cooper-Moorhead is a cost-effective, responsible approach to a problem of growing concern. Mr. COOPER and I have worked together to develop this amendment and, we both believe it is a responsible and measured next step to address global climate change concerns. This amendment has received the endorsement of several utilities and the national clean air coalition.

My second amendment concerns the nonroad engine and nonroad vehicle preemption adopted by the committee. H.R. 3030 as reported from the Committee on Energy and Commerce would revoke State and local authority to regulate emissions from nonroad vehicles and nonroad engines. The bill would prohibit State or local controls on new engines used in off-road vehicles, such as ships and other marine vessels, trains, and construction and utility equipment. EPA would be given discretion—but not be required—to control these sources. If enacted into law, this nonroad engine preemption would:

First, it would prohibit State or local control of sources in California with ozone forming emissions equal to 275,000 tons per year. These emissions are equivalent to those emitted from 75 large oil refineries or 9 million vehicles with the emissions of today's automobile fleet. By the year 2010, emissions from preempted sources are projected to grow to 380,000 tons per year, fully 14 percent of the State's inventory.

Second, it would void California law which requires adoption of State or local controls for these sources by the end of 1992.

Third, it would prevent California from meeting commitments in the adopted State implementation plan. Measures that are expected to reduce ozone-causing emissions by 143 tons per day—10 percent of tier I and II reductions in the plan—would be voided.

Fourth, the bill would force California to rely on EPA regulation of these sources to the level the EPA Administrator "deems appropriate" based upon national considerations of cost, noise, safety, and energy factor, not on what California needs.

Unless the EPA uses its discretionary authority to regulate these sources in a timely and stringent manner, the preemption would make it impossible for Los Angeles to demonstrate attainment of the ozone standard within the 20 years provided by the bill and subject the region to sanctions; and greatly increase the time needed to attain standards in other areas of California, potentially triggering sanctions and requiring additional costly controls on other sources still subject to State and local jurisdiction.

Mr. Chairman, I have asked the Rules Committee to make in order an amendment to delete this Federal preemption, at least as it relates to California. I hope the committee will grant my request to protect the air in California.

I urge my colleagues to support the Cooper-Moorhead amendment and my amendment to delete the nonroad engine and nonroad vehicle preemption, now contained in the bill.

□ 1600

Mr. WAXMAN. Mr. Chairman, I am pleased to yield 6 minutes to the gentleman from Illinois [Mr. BRUCE].

Mr. BRUCE. Mr. Chairman, I thank the gentleman for yielding time to me.

Mr. Chairman, first I think for all of the people who have worked so long on this particular piece of legislation that thanks are due, particularly to the chairman of the committee, the gentleman from Michigan [Mr. DINGELL], and the minority spokesman, the gentleman from New York [Mr. LENT]. Both of these gentlemen have spent an incredible amount of time on this legislation. Also thanks go to the gentleman from California [Mr. WAXMAN], chairman of the subcommittee, and the gentleman from Illinois [Mr. MADIGAN], the minority spokesman, as well as to the gentleman from Indiana [Mr. SHARP] and his colleagues on the Energy and Power Subcommittee.

Additionally, as has been said here already, the staff of the committees and the subcommittees should be mentioned because I think it ought to be recognized that without the strong work of the staffs of both sides of the aisle that this compromise position and proposal would not be on the floor. It took again 13 years from the last passage of major clean air legislation to make it back to the floor again.

I am happy that several members of the House Energy and Commerce Committee had, I believe, significant roles in bringing this bill to where it is today. First of all, the group of nine, nine moderate Democratic members of the committee that decided well over a year ago that this bill had to come to the floor, 13 years was long enough that this House had not addressed the issue of clean air, and that we ought to try to forge a compromise that would allow both sides to bring legislation to the floor. We worked very hard, but the issue was greater than the nine of us, and only in one title were we able to get a compromise, but in that area of tailpipe emissions we were able to strike a compromise, and much of the group of nine proposal is found in this proposal that will be on the floor to be voted on later this week.

Part of the work of that group of nine I think led to the major compromise between the gentleman from California [Mr. WAXMAN] and the gentleman from Michigan [Mr. DINGELL] on tailpipe emissions. We worked very hard that that logjam that had kept legislation from this floor for such a long time would finally be resolved not in the committee but before committee where we could sit down and reason with one another without the glare of cameras and without the problems of trying to go through all of the parliamentary procedural problems that are part of open committee hearings, and that we would in fact sit down and try to work out problems, and they were worked out to the point that an agreement not only was agreed to in committee, but on the floor of this House, and through conference committee, and I think all of us were very well served by the Waxman-Dingell compromise, particularly on tailpipes.

This is needed legislation. We need to spend more time in protection of the environment. But also I think the

committee took good heed of the problems of economic cost and the consideration of those economic costs.

We are already spending as Americans over $30 billion a year on costs of cleaning up the environment. This bill will add an additional $21.9 billion in additional costs. We need to be careful about how we make those costs and spread those costs not only among industry but across areas of the United States.

I had as a watch word the fact that we could pass environmental legislation through this body without doing economic damage to one particular area of the United States. It takes very hard work to find just the right mix, and I think that is what we did basically in this Energy and Commerce compromise.

There is one area where, I think, we could have done better, and that is in the area of acid rain. The acid rain agreement I think helps. It goes a lot further than the Senate provision, but still, thousands of coal miners will be unnecessarily put out of work, and the economy of the central part of this country, I think, will be severely damaged.

We face severe burdens under the acid rain legislation. It is tough. But my concern is it may not be fair to the Midwest. We will continue to work to see that this proposal, as the acid precipitation assessment study is completed, we will work with Members of this body and the other body to see if the provisions within the acid rain portion of this legislation cannot be modified to be of more assistance to the Midwest.

We have reached agreement just this weekend on reformulated gasoline. I think that that is good for the environment, and again for the domestic economy. It will help us sell a great deal more ethanol in urban carbon monoxide non-attainment areas, and it should increase the use of ETEB in ozone areas.

The bill is overall tough, but fair. In autos, in CFCs, in consumer solvents and a whole range of items touching every American the legislation has certainly tried to be tough but fair. In a bill of this size, it is possible that not everything will work the way it is planned. This Congress has waited 13 years to address the question of clean air. We should not wait another 13 years to pass the next round of amendments. A steady progress is better for the economy and better for the environment, and I hope that this body will revisit this issue as recently as next year to find the problem that we have solved and also the problem that we have created for certain parts of our economy and address those problems next year.

But this is a tremendous accomplishment for the committee and for this body to have passed and considered clean air legislation. This is a good package and I hope it receives the support of the entire House.

Mr. LENT. Mr. Chairman, I yield 5 minutes to the gentleman from California [Mr. LAGOMARSINO].

□ 1610

Mr. LAGOMARSINO. Mr Chairman, I thank the gentleman for yielding time to me.

Mr Chairman, the day is finally here! It has been 13 years—long overdue—As a Member of Congress who has highly anticipated this day and who has worked hard for passage of a clean air bill, I rise in strong support of H.R. 3030, and urge my colleagues to vote for this very important piece of legislation.

I want to commend Chairman DINGELL, Vice-Chairman LENT, Congressmen MADIGAN and MOORHEAD, Congressman WAXMAN, the members of the energy and commerce committee, and my California colleague JERRY LEWIS, for working so hard to bring this legislation to the floor and congratulate them on a job well done. I also commend President Bush for proposing H.R. 3030, giving this issue the boost needed to break past deadlocks, and making this day possible.

The district I represent has one of the most serious ozone problems in the country and, like many areas, also suffers from other air pollution problems. I have received literally hundreds of letters in support of a strong clean air bill and I am pleased that the House of Representatives is finally responding to the overwhelming call for action.

I have worked for passage of a clean air bill for a number of years. During the 100th Congress, I cosigned the Vento/Green letter and was presented a clean air champion medal by the Sierra Club for that effort to bring a clean air act to the House floor in the final days of the Congress.

During this Congress, I cosponsored H.R. 2323, the Clean Air Restoration Act and H.R. 1470, the Acid Deposition Control Act. I also joined a number of my colleagues in sending a letter to President Bush urging him to join the efforts to reauthorize and strengthen the Clean Air Act and supported H.R. 3030 when the legislation was first introduced. I have also worked hard to ensure consideration and passage of the Levine/Lagomarsino/Lowery clean coasts amendment, which will address a major pollution source facing many coastal areas.

The fact remains that over 150 million Americans now live in cities with pollution levels that experts consider unsafe. Through hard work and compromise the Energy and Commerce Committee was able to report a good bill which effectively addressed the major air pollution problems facing our Nation.

We have always known that it would not be cheap to clean up our air pollution problems. But, we also knew that the alternative of continued air pollution and the associated health problems were totally unacceptable.

The citizens of my district, as well as people across the Nation, have demanded the right to breathe clean air. Today we begin an important step toward giving them that right.

Mr Chairman, for my constituents, for their children, and for generations to come, I strongly support H.R. 3030, and urge every Member of the House to vote in favor of the bill.

Mr. WAXMAN. Mr Chairman, I am pleased to yield 5 minutes to the gentleman from Maryland [MCMILLEN].

Mr. MCMILLEN of Maryland. Mr. Chairman, I want to salute the chairman of the Energy and Commerce Committee—Mr. JOHN DINGELL—for his excellent leadership during the full committee markup of H.R. 3030—as the newest member of the Energy and Commerce Committee, I was impressed by the level of commitment of each of the members to achieving the best possible bill. Even on potentially divisive and contentious issues, members strove to find common ground. It is a testament to the leadership abilities of Representatives DINGELL, WAXMAN, LENT, and SHARP that we have been able to break the impasse that stymied progress on clean air.

Our work is not over—we have an awesome responsibility in the days ahead as we proceed with floor action on H.R. 3030, the Clean Air Act Amendments of 1990. The greatest challenge before us is how to best reconcile the demands of economic growth with effective environmental protection. After long months of arduous debate and markup in the Energy and Commerce Committee, I believe we have crafted a bill that strikes the appropriate balance. The New York Times lauded the Energy and Commerce Committee for producing a bill that was more protective of the environment than the version of the other body, at a reduced cost. The smog provisions call for a stronger Federal role in forcing cleanup by States and municipalities. There are real teeth in this section—unlike previous versions of the Clean Air Act, these are meaningful sanctions that seek to compel cities toward compliance. Title I is a better plan than corresponding portions in the Senate version, as it tailors requirements for cities to the severity of their air quality problem. Cities and locales with more severe ambient air quality problems than their neighbors will have correspondingly longer periods of time in which to rectify their problem. To assist with the evaluation of their progress toward compliance, H.R. 3030 institutes a series of milestones—times by

which an area must report on their effort to gain compliance. Such measures will enable authorities to evaluate whether mandated State plans are adequate for the task at hand, or whether or not upgrade refinement is needed or whether, in fact, Federal preemption is needed.

Many agree that title III—covering air toxics—does a superb job of clamping down on sources of cancer-causing industrial emissions. As an improvement to the markup vehicle, a motion was made—and accepted—to enlarge the scope of control and regulation to include 100 percent of all categories of major sources of toxic chemicals. This is in keeping with Senate language on the same subject. Representative GERRY SIKORSKI and I were successful in committee in adding even more stringent requirements for air toxics sources adjacent to delicate estuaries, such as the Great Lakes and the Chesapeake Bay. Our amendment mandates a 2-year study to determine the bioaccumulative effects of airborne toxics, at the end of which time it is incumbent on the EPA to proceed with effective and meaningful control regulations for toxics sources. That is accomplished 1 year after the completion of the EPA study. To be sure, these mandates will go a long way toward ensuring better health for residents of these areas.

While the Energy and Commerce Committee endeavored to produce the finest possible bill, the need for refinements exists. As we speak, staff and members are trying to forge meaningful and workable compromises on outstanding issues.

I am pleased that an agreement was reached on reformulated gas, which will clearly improve our air quality but not impose undue costs. I look forward to a lively and informative debate on some of these remaining points of interest today during general debate.

Mr. LENT. Mr. Chairman, I yield 7 minutes to the gentleman from New York [Mr. BOEHLERT].

Mr. BOEHLERT. Mr. Chairman, I rise in support of H.R. 3030, legislation that has been painstakingly crafted over many, many years. I take some measure of pride in the final product, particularly as it relates to the subject of acid rain. I would like to think that I have made some contributions to that section for the good of America.

Mr. Chairman, the work that we are about here and now in this Chamber, the people's House, is of monumental significance, so much so that even the most articulate and eloquent among us will have difficulty overstating its value.

Simply put, we are taking a giant leap toward that day when once again clean air will be an American birthright.

We have been talking and studying for years. And now we are acting with determination, with resolve, with commitment.

For years and years we talked, and for years and years we studied, and it seemed always that every time a new study came out with what we thought was a definitive mandate to move, someone called for yet another study.

The studies went on and on and on.

Finally in frustration, the former Governor of New Jersey, Tom Kean, said:

> If all we do is continue to study the problem, we will end up with the best-documented environmental disaster in history.

What is the difference? What is different about these past 12 months as we compare them to the previous decade?

This time someone is providing the missing ingredient, and that missing ingredient, I submit to my colleagues, is leadership from the top. President George Bush advanced this program, sent it to Capitol Hill last summer. No way could we be here today, no way could we be discussing this important legislation had not we had that leadership from the top.

I know the great work done by the chairman of the committee, the gentleman from Michigan [Mr. DINGELL], the vice chairman of the committee, the gentleman from New York [Mr. LENT], and certainly that most active of activists among us in the environmental causes, my colleague and good friend, the gentleman from California [Mr. WAXMAN].

The honor roll of those who have left their imprints on this legislation is long, but there is one person who made a difference, and let us never forget it; George Bush provided that missing ingredient, leadership from the top, and he has earned our thanks.

My story is like the story of some people here. When I first campaigned for office back in 1982, I decided I could not be all things to all people.

□ 1620

So I was going to try to focus on certain select issues where I thought maybe, just maybe I could make a difference. The environment was one of those issues.

Then I came to Washington all full of energy and said "Boy, we are going to do something about this environment." Every time I brought up the subject of acid rain I would get muffled yawns and disinterest. Finally, one day a senior colleague called me aside and said, "Now, lookit, the problem of acid rain—why don't you guys up in New York get together with the people in Ohio and work this problem out? It is just a regional problem." That is what he thought.

The scientific evidence is something else entirely different. Finally, one gentleman came forward, a surprise to many Members to really have a significant impact on the action of the U.S. Government on this subject—that individual is the Prime Minister of Canada, Brian Mulroney. I remember it so well. President Reagan went up to Quebec City to Shamrock Summit 1. It was on St. Patrick's Day. Just a few years ago, and I thought that he was well prepared, and he thought so, too. Certainly, everyone would want to discuss trade, because the trade barrier between our two nations is very important. Certainly, the subject of mutual defense would be very important. But lo and behold, the Prime Minister of Canada said, "No, Mr. President, the issue that is critical in terms of the relationship between our two nations is the subject of acid rain." From that day forward, a lot more attention was paid to this subject by some of my colleagues in here who in the past had greeted me with muffled yawns and disinterest when I talked about the need to do something.

Then, in 1985, after I looked over my first 3 years in office, I said to myself, "I have a lot of press releases but not much progress. Why not do something even more? I am not on a committee of jurisdiction, how can I have an impact?" Well, I went and talked to my friend, the gentleman from California [Mr. WAXMAN]. He had some good ideas. I talked to other activists in the group, and then I decided and it hit upon me that people said Republicans do not care about the environment. I said that simply is not true. Republicans are just as committed, just as determined, have just as much resolve as those in the environmental community. We formed a group and we called it "The working Group on Acid Rain." From that day forward, a dedicated band of Republicans—and the list is long—Ms. SNOWE of Maine, Ms. SCHNEIDER of Rhode Island, Mr. TAUKE of Iowa, Mr. SMITH of New Hampshire, Mr. GREEN of New York, and a whole list of committed environmental Republicans began working with our colleagues on the other side of the aisle and began working with the administration to convince all that we had to do something meaningful. The time for study was long since past. It was time for action.

Now we have that action here and now on, on this floor.

Mr. WAXMAN. Mr. Chairman, will the gentleman yield?

Mr. BOEHLERT. Mr. Chairman, I yield to the gentleman from California.

Mr. WAXMAN. I thank the gentleman for yielding. We will not be having a debate over the acid rain issue, because that is now agreed upon. However, when people look at that provision and want to know how it came into being, I want to pay tribute to the gentleman from New York for his leadership. Sometimes people

think only of the members of a committee as having an impact on policy, but the gentleman's persistence in demanding that we address the issue of acid rain is as responsible, and in fact, more responsible than almost any other Member in this House for making sure that that issue was not ignored.

I thank the gentleman publicly. This issue was never a partisan issue. Protecting the environment and the public health should not be partisan, and the gentleman's leadership has been a very important ingredient in the fact, today, we can stand here and acknowledge that this bill has an acid rain control program which is not controversial in the sense that it is clearly a consensus, has a consensus behind it for its adoption.

Mr. BOEHLERT. Mr. Chairman, I thank the gentleman from California for those very generous remarks. He points out something that is so important, that I want all Americans to pay attention to.

In this Congress, in this House of Representatives, the people's interest comes first. As so often is the case in point right now, a bipartisan coalition of people committed to the public good are able to develop something that is meaningful, that is significant, and will serve Americans well for generations to come. A lot of people in this House deserve credit. but I say once again, the missing ingredient was provided by the President of the United States, George Bush—leaderships from the top.

Mr. WAXMAN. Mr. Chairman, I yield 7 minutes to the gentleman from Illinois [Mr. POSHARD].

Mr. POSHARD. Mr. Chairman, I thank the gentleman for yielding time to me. I would like to thank the gentleman from Michigan [Mr. DINGELL], the gentleman from California [Mr. WAXMAN], the gentleman from Indiana [Mr. SHARP], the gentleman from Illinois [Mr. BRUCE], the gentleman from Illinois [Mr. MADIGAN], and others on this committee who worked very hard to find compromise, especially in the title V portion of this bill.

Mr. Chairman, we are faced with a classic dilemma here: Is the glass half full or half empty? For a lot of working people in my area, the glass is not only half empty, it could be easily be kicked over. And economic ruin could spill throughout the communities of southern Illinois as a result of this bill. We are not alone. Other high-sulfur coal areas are in the very same predicament in about nine States of this country. Some jobs will be lost. We do not know how many. Right now, the predictions for my particular district are between 9,000 and 19,000 jobs being lost in the coal mines.

However, the bill does mean clean air for all Americans. Truly, it will improve our air quality. But in the fairest way possible? I do not think so. Coal-fired utilities create only half of the sulfur dioxide, and a third of the nitrogen oxides in this country. Yet we must accept the great majority of the cleanup burden. Ninety percent in the early phases, over 70 percent in the latter phases. Industrial sources kick in a pretty fair share of the emissions in this country, but escape almost untouched in this bill. We are treating a national priority as a regional problem, and it just is not so.

What is the difference between spending Federal money for disaster assistance, or after floods, or hurricane damage, and spending a little up front to help the coal mines and the utilities that burn their coal meet their natural challenges in this country? What is more, we have spent over $400 million on an acid rain study, yet surge toward legislation without bothering much to find out what the study has to say.

People in my district are not opposed to clean air, even the ones who are going to be standing in the unemployment lines—those 9,000 to 19,000—because of this bill. We are simply asking for fairness. If 9,000 or 19,000 people lose their jobs, what does that mean to the small businessman on Main Street who has to sell his shoes or his groceries to survive? What does it do to the truckers who haul the coal, to the electricians who service those mines? What does it do to the schools when the mines shut down, who depend upon the property tax base from the mines to support our children's education? All of these questions are yet to be answered, Mr. Chairman.

I am seeking assistance for two amendments being proposed for consideration in this debate. The first is an amendment from the gentleman from West Virginia [Mr. WISE], unemployment transition program. It is an excellent amendment providing for extension of unemployment benefits for those workers who are displaced by this bill. It also provides for retraining of those displaced workers to gain additional skills for finding jobs in other parts of the economy. Is it too much, Mr. Chairman, to ask for those miners of ours and others in related industries, who will be displaced by this bill, to receive an additional 6 months of unemployment insurance benefits? Is it too much, Mr. Chairman, to ask for those people who go down into the belly of the Earth, day after day, doing the job of producing energy for all Americans in this country? Is it too much for them who have thought that that coal would be there forever, for them to mine and put clothes on the backs of their children?

□ 1630

Is it too much for those who have thought that that coal would be there forever for them to mine and put clothes on the backs of their children, is it too much, Mr. Chairman, to ask for those people to be given retraining efforts when their jobs are lost as a result of this bill? I think not. That is the minimum amount of fairness we could accord to those workers.

Mr. Chairman, if we are going to require lower emissions for utilities without providing real cost-sharing, then we should help our communities and our regions assess the future for their businesses and customers, for their schools and their children.

In the second amendment, Mr. Chairman, I suggest that a university or universities in the high-sulfur coal areas combine their departments of economics, of coal research, and business to analyze the cost, the benefits, and the drawbacks of switching from high-sulfur coal to other fuels.

To meet the low emission standards, obviously one option for the utilities is to bring in low-sulfur coal, but when we factor in transportation, the need to burn more coal to get the same amount of power, and the huge numbers of job losses in the high-sulfur areas, it may be that sticking with the high-sulfur coal and applying the technology to clean it up is in the best long-run interests of our high-sulfur coal areas. At least the high-sulfur coal regions need to know what the long-range economic impact of this legislation is going to be.

Mr. Chairman, I urge my colleagues to consider these suggestions in a partnership for clean air and a sound energy policy based on abundant domestic resources, including high-sulfur coal.

Mr. LENT. Mr. Chairman, I yield 5 minutes to the gentleman from Arizona [Mr. KOLBE].

Mr. KOLBE. Mr. Chairman, I rise today in support of H.R. 3030, the Clean Air Act. My support is accompanied by praise, caution, and optimism.

The praise is for President Bush. He took the bull by the horns—introducing a bold and specific initiative to improve this country's air quality. Although the proposal is not perfect, it has provided a direction and a framework within which to work. And, perhaps more importantly, the proposal has broken the deadlock on clean air legislation that has existed for over a decade. Mr. Bush promised to be the environmental President, and he has delivered. Now it is time for us to be the environmental Congress. Let the "greenhouse effect" come to mean the positive effect this House had on the environment.

While the committees of Congress that have worked long and hard on this legislation also deserve praise, at the same time Congress needs to be cautioned. Unquestionably, now is the time to take action to protect our envi-

ronment. Our approach, however, must be fair, reasonable, and balanced. With the attention of our country justifiably focused on environmental issues, it would be easy, but irresponsible, to act with disregard for the attendant cost of the program and the possible deleterious effects on business and society as a whole.

For example, a law that would require Western States to subsidize the installation of scrubbers required by Midwest utilities to meet their emission limits is patently unfair. My State of Arizona and other Western States have already installed expensive sodium dioxide scrubbers and low-nitrous-oxide burners to comply with present and projected standards. Electricity rates in Arizona are already high due to these modifications. Electric consumers in Arizona have paid over $400 million for the scrubbers and another $80 million for the low-nitrous-oxide burners. Subsidizing of States not in compliance with emission standards at the expense of those States in compliance is not only unfair, it is a disincentive to compliance. Admittedly, this issue is not just a local, State, or even national issue—it is international in scope. Certainly, we must all do our part. But equity requires that States leading the way toward a cleaner environment not be penalized for their efforts.

This legislation must also be reasonable. It is not reasonable for one who fully satisfies the act's permitting requirements to be subject to a violation for the same circumstances; nor is it reasonable to criminalize inadvertent recordkeeping errors. After all, if we want people to respect the law, the law must be respectable.

This legislation must be balanced, too. A law that would establish permitting requirements so stringent that it severely inhibits the ability of American business to respond to market demands is out of balance; so, too, is any part of the law where the benefits do not outweigh its costs. Although the ultimate cost of the act are unknown, annual estimates run as high as $104 billion or as little as $14 billion. Fiscal responsibility is a must.

Let us aggressively pursue clean air, but this pursuit must be tempered by fairness, reasonableness, and balance.

Finally, on this day I am optimistic. The piece of legislation before us, although imperfect, provides an opportunity to pass a comprehensive and meaningful clean air bill.

The act establishes requirements for emissions control of mobile sources. These sources cause 50 percent of urban ozone pollution, 50 percent of nationwide toxic emissions, 90 percent of carbon monoxide pollution, and, as such, are the biggest offenders of clean air in the country. The bill establishes a much needed clean-fuel program for fleet vehicles to encourage the use of new power sources like electricity.

The act establishes a market-based allowance system for acid deposition control. This will reduce sodium dioxide emissions from utilities to 80 million tons a year by 2000, down 8.5 million tons from 1980 levels. Coupled with expected reductions from 1980 levels of 1.5 million tons from other nonutility sources, the bill should result in a net reduction of 10 million tons of sodium dioxide.

The bill also seeks to control nitrous oxide emissions. It requires EPA to set certain specified emission limitations for electric utility sources sufficient to reduce nitrous oxide emissions by 2.5 million tons below the administration's 1989 projections of the level of nitrous oxide emissions in the year 2000.

The bill establishes programs directed at controlling hazardous air pollutants and attains ambient air quality standards. I am pleased to be a part of these meaningful and responsible environmental reforms.

In the final analysis, the act achieves its goals by significantly addressing three major areas of the air quality problem: urban smog, acid rain control, and toxic air pollutant regulation.

Here is an opportunity for Congress to toughen air pollution laws for the first time in 13 years. This chance must not be squandered—for next time may be too late. It has been said that the environment belongs to all of us. I believe, however, that the environment belongs to none of us; it is a gift from nature's library—to be borrowed and enjoyed and then returned to the shelf for the next generation.

Mr. WAXMAN. Mr. Chairman, it is my pleasure at this time to yield 5 minutes to the gentlewoman from Illinois [Mrs. COLLINS], an important member of our committee and our subcommittee and a real environmental champion.

Mrs. COLLINS. Mr. Chairman, while driving in the rain down Eisenhower Highway in Chicago recently, I noticed a dirty film on my windshield. I tried to remove it with the windshield wipers, but the film streaked. Initially I thought my windshield wiper blades were worn, but after applying the window washer solution several times, the windows became spotless and I realized, I experienced once again just how much damage polluted air is doing to our lungs and to our overall environment.

The reckless dumping of dirty, deadly chemicals and emissions into our atmosphere is injurious to both public health and the environment in which we live. It is such a common occurrence that environmental protection has become one of the most important issues of this generation.

Clean air is neither a novelty item nor a luxury, rather, it is the foundation on which our entire survival is based. The massive pumping of carbon dioxide has drilled a hole in the ozone layer, a significant expansion of which has been known to cause health problems and death. Autos, trucks, and buses still account for 45 percent of the ozone problem. In 1980, ozone standards were exceeded on 28 days in Illinois; in 1988, they were exceeded on 32 days. The proliferation of air toxics is no better. In 1988, 46 million pounds of toxic chemicals were spewed into the air by Chicago-area industries, up from 38 million pounds the year before.

At the other end of the spectrum, the daily inhalation of pollutants, which have become commonplace, has drastically increased rates of cancer and other lung diseases in residents of Chicago and elsewhere. Of the 46 million pounds of toxics pumped into Chicago's air in 1988, 1.4 million pounds were cancer-causing carcinogens.

We must respond forcefully and with total commitment to recapturing our future put in jeopardy by careless indifference toward environmental and health concerns. And we must do so now, capitalizing on this week's opportunity for progress. Some industries have been protesting that proposals affecting automobiles and their fuels, electric utilities, and the use or production of toxics will cause them to change their way of doing business. Well, that's precisely the point. American business has been too often conducted with little or no regard for environmental concerns.

I am fully confident, however, that the ingenious, creative American entrepreneurial spirit will have no trouble developing and adjusting the new standards set forth in this legislation. I have already seen many examples of environmentally sound methods of profitable production and am aware that many others exist. Most importantly, atmospherically safe production and manufacturing alternative are staggering.

Motor vehicles provide an excellent example. They are the main contributors to Chicago's air quality malaise. American manufacturers have already developed many methods of better controlling the emissions from auto, trucks, and buses. Yet, those methods have been left in the labs rather than built into the vehicles. H.R. 3030 would bring these technologies to the fore.

I want our automakers to experience continued growth in the United States and abroad in the 1990's and the next century. But they won't succeed by saving $50 or $100 at the cost of environmental irresponsibility. As consumers increasingly demand vehicles with the lowest possible emissions, they will

turn to whichever manufacturer best satisfies that need. To remain competitive, our auto manufacturers must make a serious commitment to producing vehicles that are economically and environmentally viable.

Consequently, not only do I support the bipartisan agreement on tailpipe emissions that we agreed to last year in the Energy and Commerce Subcommittee on Health and the Environment, but also all other efforts to rely on cleaner vehicles. Among the initiatives, that I will be supporting on the floor this week are the broadest and strongest possible provisions on alternative fuels, superclean fleet and other vehicles, and reformulated gasoline. I am optimistic that a combination of solutions will lead to a profound improvement in air quality, both in Chicago and nationwide.

Chicago's air pollution problems unfortunately do not end there. Acid rain is endemic to the Midwest and other areas, and Chicago is not exempt. It takes a daily toll in vital ways. It contaminates and limits the growth of crops, weakens our trees, poisons our waters, kills our fish, and even fizzles away the paint on our cars. I am convinced that the Energy and Commerce Committee's work on title V of the bill, on acid rain, will drastically reduce this problem. I am proud to have contributed language to that title that will safeguard poor Americans against the leap in electricity costs that are expected to result from title V.

The bottom line is that our Nation's utilities and production facilities must reach beyond coal, oil, and fossil fuels. The focus must shift instead toward conservation and renewables such as hydropower, solar thermal, photovoltaics, geothermal, and wind. These clean sources of energy, available in virtually limitless supply, are the way of the future. Although applications of these sources were initially developed in the United States in the past decade, Japan and other countries have taken the lead in their development. I would hate to see another American industry take a loss in competitiveness by resisting this inevitable trend of the future. Consequently, I am very pleased with the inclusion in title V of a provision which I helped develop to encourage utilities to reach their air quality goals through greater use of renewable energies and conservation. It allows a small pool of the sulfurdioxide allowance credits to be allocated to utilities that clean their emissions through the use of conservation and renewable energies during the first years after passage of this bill.

There are other major ingredients in a balanced, comprehensive, and effective clean air bill which were not addressed in committee. The toxic emissions from stationery sources must be sharply curtailed. I plan to offer an amendment to ensure that existing sources adhere to a strong standard of maximum achievable control technology. We must also take a tough stand to prevent against accidental releases of toxics which can lead to catastrophe.

The rights of private citizens must also be protected. I have been working since last year on language with which to amend title VI, on enforcement. The objective is to ensure the rights of private citizens to take legal action to enforce the clean air laws, even when the authorities have chosen not to pursue violations. If we are taking action for strong clean air legislation, then we must also ensure that the resulting legislation is fully enforceable. Clear citizen suit provisions are the key to that.

Mr. Chairman, I am pleased that clean air legislation is rapidly moving forward. However, to complete the task, we must spend the next few days adopting amendments which toughen the bill. If our aim is to amend the Clean Air Act without any disruptions to standard business practice, then we fail. We must aim instead toward making our Nation competitive in the long run, while acting on the air quality imperatives of coming decades. The businesses worth bolstering are those which eargerly embrace the future, not those which fight against it. I look forward, Mr. Chairman, to a productive week toward the goal of solid, serious clean air legislation.

□ 1640

Mr. LENT. Mr. Chairman, I yield 5 minutes to the gentlewoman from Maine [Ms. SNOWE].

Ms. SNOWE. Mr. Chairman, I am happy to rise today in support of H.R. 3030, the Clean Air Act reauthorization. The Nation has waited too long for Congress to improve our air pollution laws, we must act now to protect and improve our air quality throughout the country.

I also rise in recognition of President Bush's central role in breaking the decade-long legislative logjam which has blocked consideration of the Clean Air Act. And I would like to commend the gentleman from Michigan [Mr. DINGELL], the chairman of the Committee on Energy and Commerce, the gentleman from New York [Mr. LENT], the subcommittee chairman, the gentleman from California [Mr. WAXMAN], the gentleman from Illinois [Mr. MADIGAN], and the committee for its perseverence in grappling with and overcoming the seemingly irreconcilable regional differences over this issue.

In addition, let me add my words of praise to our colleague from New York, Representative BOEHLERT, for all of his efforts on this issue. The initiatives of the 92 Group's House Working Group on Acid Rain, which he headed, were instrumental in creating the compromise embodied in the bill before us today. Our 92 Group is devoted to realistic and effective solutions to the problems of our time, and this is a prime example of our approach.

The very pervasiveness and wide-ranging impact of air pollution, in all its different forms, has meant that this is an extremely complex bill to construct. But, for those same reasons, this legislation will have an enormously positive impact upon our Nation. Yes, it comes with costs; yet untreated air pollutants have already exacted a price and will exact an even higher one without this legislation.

Mr. Chairman, I am particularly pleased with title V of this bill, which addresses the harmful effects of acid rain. Over the years, this has been of the utmost concern to me: for with Maine's lush forests and unsullied lakes and rivers, my State is highly vulnerable to the eroding impact of acid rain.

These carefully shielded resources represent the economic backbone of Maine, primarily through the forest products industry and through tourism. But just as important, a threat to Maine's forests and waters is a threat to the very heart and character of our State.

Because of this, Maine and other New England States have taken action to limit emissions from utilities to standards far stricter than those imposed by the Federal Government. These stringent controls have come at a very real price—higher electric rates for Maine and northeastern consumers, and a limit to the amount of job-producing industrial development.

This Congress reflects the realization that these consumers must not be forced to pay even more—to pay twice, in effect—to clean up utilities that have polluted our air for years while charging their customers demonstrably lower electric rates. With the financing mechanism contained in title V, we finally and thankfully have a fair approach to curtailing acid rain.

The success of the original Clean Air Act cannot be denied—it is hard to imagine what our air quality would have deteriorated to, without it. Nevertheless, the United States has changed considerably since 1972 and our principal environmental law must be adapted and strengthened to reflect those changes.

Today we are faced with new problems that were unknown only a decade ago. The potential of global warming forces us to find ways of limiting our reliance on fossil fuels and to find cleaner, safer, and renewable forms of energy.

Ozone, for example, presents a particularly difficult problem: we have too much on the ground and too little in the upper atmosphere. I am especially concerned about ground level

ozone because of the nonattainment levels of pollution that plague much of Maine's coast. My concern is heightened by the fact that the majority of this ozone is not generated in Maine, but rather moves up the coast from our neighbors to the south.

Again, H.R. 3030 addresses this issue fairly and effectively, much more so, than the parallel provisions in the Senate-passed legislation. Nonattainment areas such as Maine, which did not cause their pollution, can be exempted in this bill from the strict control provisions due to that imported pollution. It's a matter of common sense: don't punish an area that is already suffering from a problem that it did not create.

Mr. Chairman, the American people have waited too long for a new Clean Air Act. President Bush provided the leadership to move the debate and now the Congress has responded responsibly with a bill that we all can support. It fairly and realistically addresses our air pollution problems and provides remedies that will allow our constituents to breath easier without taking the breath away from business and industry. I urge my colleagues to join me in support of H.R. 3030.

□ 1650

Mr. SIKORSKI. Mr. Chairman, I yield 6 minutes to the gentleman from Ohio [Mr. APPLEGATE].

Mr. APPLEGATE. Mr. Chairman, my colleague, the gentleman from Illinois [Mr. POSHARD] was up before us awhile ago and made some very stirring and very straightforward remarks with which I would agree.

There have been a lot of glowing remarks about this bill. I have to ask the question, is it worth the cost?

We talk about how much nitrogen oxides and how much sulfur dioxides will be taken out of the air, and I agree that this bill will probably do it. But is it worth the cost?

Are the Midwest power plants and the coal mines and the steel mills the real culprits? Well, if you take a look a lot of the studies that have come out, you will find that, no, they may not be the culprits at all. If you take a look at these studies and read them in depth, you will understand it.

So why are we pushing forward with this piece of legislation without taking into consideration the results of these studies?

Now, let me tell you, the taxpayers in this country when you have to finally go back and explain to them that we spent $600 million of your tax dollars involving Canada, England, and the United States, to come forth with a study of 10 years, the results of that study to be due in the fall of this year, and yet nobody is paying any attention to it. When I tell people this is $600 million of your money, our tax dollars, people say, "Oh, why?"

I mean, if we blew $600 million on some idiotic proposal, the press in this country would be jumping down our necks, and they would say these crazy people in Congress are just wasting your money again, or they are spending it on something that is not even worthwhile.

Well, this is worthwhile. Who was it in 1980 who supported this acid rain study, called NAPAP, the National Acid Precipitation Assessment Program, 10 years, $600 million of your tax dollars? The result will be out. The preliminary results are already out.

Do you know what they say? They say the sky is not falling. There is no environmental crisis, and all these serious concerns are unfounded.

The environmentalists pushed this thing in 1980, but because it does not say what they want it to say, they are disregarding it altogether. They are pushing the President, they are pushing the Congress, and they are successful.

So where have your bucks gone? They are right down the tube, and I think the people of this country should be outraged about it.

We in the Midwestern part of the United States are as much concerned about clean air as any of the other people throughout America, but we are also aware that it has to be balanced with a stable economy. It has got to be balanced with the retention of industries. It has got to be balanced with the saving of our community, the saving of our jobs.

I intend to oppose this bill in its present form. There is no way that after saying what I have said that I can come forth and support this bill.

The tragic consequences are the closing of industry and the jobs that are going to be lost, lost for no reason whatsoever, the loss of the right of the quality of life of people, and as was pointed out before, these hundreds of thousands of people who are going to be put out of work. How are they going to be able to clothe, feed, house, and educate their kids? You cannot do it today even when you are working, so how are you going to do it when you do not have a job? You cannot rely on the Government to come forth and pay for everything.

Let me say that in the seventies we were paying $32 billion a year for the Clean Air Act that we passed then. It was already passed. We lost hundreds of thousands of jobs. We only had 17,000 high sulfur coal jobs in my district, 14,000 of those are already gone, so we only have a little over 3,000 left. That is in southeastern Ohio.

Dr. Steger of the Carnegie Mellon University came out with a little study of the impact of the passage of this bill, and if the Senate bill is passed he says it is going to cost 4 million jobs. That is what is going to be placed at risk, and 750,000 of those jobs will be lost, 350,000 will be lost because of the House bill, and there will be steel, there will be coal and there will be a lot of others.

The reason I got up, I wanted to say this, because I wanted to mention that because of the job loss if this bill is passed, we must support the Clean Air Employment Transition Program, which is sponsored by the gentleman from West Virginia [Mr. WISE], which is like the TRA, the Trade Adjustment Assistance Program, which will allow that there will be 6 months of additional compensation and retraining for those people whose jobs will be lost as a direct result of the implementation of this bill.

I think it is very good legislation. I am afraid that it is going to be something that is after the fact, because the bill will be passed. We are going to lose the jobs. We should not do that in the first place, but it is going to be passed and if the jobs are going to be lost, then these people should be retrained and should have some additional compensation.

So I say it is a very good bill. I would ask your support when that bill comes to the floor. I understand that it will come to the floor perhaps at the end of this week.

Mr. LENT. Mr. Chairman, I yield 5 minutes to the gentleman from Pennsylvania [Mr. CLINGER].

Mr. CLINGER. Mr. Chairman, I thank the gentleman for yielding this time to me.

Mr. Chairman, I would like to commend the gentleman for a very fine statement. I would like to associate myself with his remarks. I think we agree, those of us who represent the areas that produce high-sulfur coal, agree that reauthorization of the Clean Air Act is long overdue, and yes, too many years have gone before we really addressed what has become an increasingly serious problem, and yes, we need an effective policy to deal with acid rain. I say that as one who represents a coal-producing district, but I also speak from personal knowledge about the acid rain problem. Kane, PA, a town within my district, has reported some of the highest readings of acid rain of anywhere in the world, so it is a problem.

There should be no debate—there is an acid rain problem and we need to legislate a fair solution—Although title V of H.R. 3030 is one of the better attempts at finding a fair solution, it is not perfect.

A fair solution requires that benefits and costs be taken into consideration. We have done a good job in identifying the benefits, but I am not convinced that we have identified fully all of the costs.

There will be costs to ratepayers, costs to the economy, costs to coal operations, potentially thousands of coal

jobs in Ohio, Pennsylvania, West Virginia, and throughout the Midwest, and costs to this Nation's energy security in the future.

I believe that most of us are familiar with the costs to ratepayers and the risks to the economy. Title V of H.R. 3030 tries to soften these impacts through a market-oriented system of sulfur dioxide allowance auctions and trading schemes; and in the case of low-income ratepayers offers, there is some protection against rate hikes.

The economic costs of compliance with title V is estimated to range from $3.3 to $4.8 billion. Yet our bosses, the American public, have told us that this is the price we should be paying.

What we have not heard enough about is the impact to coal miners and coal mine operators. Some have determined that the job impact of the Senate-passed legislation to be as high as 15,000 direct mining jobs. If prudent measures currently in the House bill are not signed into law, the impact could be equally catastrophic.

Even with the House bill's provision providing States with the authority to require utilities to use only in-State coal in complying with emission reductions, it cannot be assumed that all States will act to protect high-sulfur coal mining jobs. If the Senate version prevails, there will be no such authority provided to States.

Accordingly, I would urge my colleagues to pass the Wise amendment. It is a modest, yet thoughtful, approach, designed to ensure that all workers—petrochemical workers, autoworkers, coal miners, steelworkers—all workers who lose their jobs because of the Clean Air Act's compliance burdens will have minimal benefits available to them. With the cost of complying with the Clean Air Act expected to increase, at a minimum, an additional $20 billion per year to over $50 billion per year; $50 million, or one-tenth of 1 percent of the annual compliance cost, seems like the least that we can and should do.

Finally, I would like to remind Members of the importance of coal in meeting our Nation's energy demands and in ensuring our national security.

With 462 billion tons of proven reserves, coal is our Nation's most abundant energy resource. And while I support efforts to more equitably distribute the costs of cleaning up our larger utilities, including maximizing Federal assistance, I am concerned about dedicating all of our remaining clean coal technology moneys to just phase 1 powerplants.

The Clean Coal Technology Program is a sound investment designed to ensure that there will be a future market for not just higher sulfur coals, but all coals. Expanding the number of qualifying clean coal technologies and providing greater flexibility in the use of these technologies will ensure that the program is a success and that all of our Nation's coal resources are available to meet our energy needs.

In closing, I would warn Members, if we bankrupt eastern coal companies, we may be forsaking billions of tons of our most abundant energy source: Coal.

I urge Memers to consider favorably committee amendments that ensure greater flexibility in the Clean Coal Program, while ensuring that the program remains competitive.

Having adopted these amendments and the Wise amendment, we should vote to reauthorize the Clean Air Act.

□ 1700

Mr. WAXMAN. Mr. Chairman, when I came to this institution 15 years ago, there was one man who was working for a strong clean air bill. He has never let up the fight. He has a firm commitment and dedication to protecting the environment.

Mr. Chairman, I am pleased and honored to yield 7 minutes to the gentleman from California [Mr. BROWN].

Mr. BROWN of California. Mr. Chairman, I am extremely grateful to the able chairman of the Subcommittee on Health for those kind and generous remarks.

It is true that the fight over clean air began in Los Angeles 35 years ago, at least, and almost 30 years ago when I and another young crop of Congressmen came to Congress from California, one of our first crusades was to help to do something about this plague which had already visited us in southern California. I can recall some of our more flamboyant efforts, such as bringing back cans of polluted air which we distributed on the floor to try and convince our colleagues that we really did have a serious problem. I commend those Members such as the gentleman from New York [Mr. BOEHLERT], and there are many others like him, the gentlewoman from Maine [Ms. SNOWE], and others, who were mentioned on the Republican side as well as on the Democratic side, who placed the cleanup of our atmosphere at the top of their priority list and who have been working diligently to achieve that goal for all of these years.

In a sense, one could say that this debate is sort of, in the words of a great American statesman, deja vu all over again, because we have been hearing many of these speeches before, but I think today we see a wider interest, a greater concern, a more knowledgeable understanding of the wide range of effects from the air pollution problem than we have ever seen before.

I consider this to be a sign of promise and, of course, I think it is very welcome, indeed, that the President has made this a priority and has given his leadership toward seeking to achieve good legislation.

Mr. Chairman, obviously I rise in support of the clean air amendments, H.R. 3030, and urgently hope that they will pass. I wanted to make the point, particularly, that the district which I am privileged to represent, the 36th District of southern California, which includes a portion of two of America's largest counties, San Bernardino and Riverside Counties, is probably the worst impacted area or region in the entire United States from air pollution. We have more smog alert days than any other region. On the worst days, the air which hangs over our counties is brown, and that is not because my name is BROWN, it is because of the air pollution. The high mountain ranges which ring the valley are completely obscured.

There is strong evidence that this smog is a killer. The death rate from chronic lung disease in the region is 37 percent higher than for the rest of California. Even if we eliminated all stationary sources of reactive organic gas emissions today, my district would still be out of compliance with the Federal ozone standards. More than half of the gas emissions in my district come from motor vehicles, and in southern California the lack of public transportation and commuter rail lines makes it very difficult for most people to cut back on driving. The problem is vast.

Califonia's South Coast Quality Management District will require roughly an 80-percent reduction in emissions of reactive organic gases and oxides of nitrogen in order to reach the Federal ozone primary ambient air quality standards in the next century.

Mr. Chairman, the only way the area can hope to achieve clean air is to combine strong stationary-source reduction provisions with strong motor vehicle emission controls. I believe the best way to achieve a long-term solution for controlling motor vehicle emissions is through the production and use of alternative fuels and alternative-fueled vehicles.

The problem not only affects southern California. We know that over 100 urban areas in the Nation do not meet existing Clean Air standards for ozone, and that more than 40 areas fail to meet standards for carbon dioxide. We also know that programs directed at reducing emissions from mobile sources will be central to air quality restoration efforts in these areas.

Consequently, Mr. Chairman, I am hoping to offer an amendment to the Clean Air Act which would increase the Federal role in creating markets for alternative fuels and alternative-fuel vehicles. This legislation would apply only to areas classified as extreme. Currently this would apply

only to the Los Angeles Basin, which contains approximately 26,000 federally operated vehicles, and my proposed amendment would require that this considerable purchasing power by the Federal Government be used to acquire vehicles after 1994 which would meet the most stringent hydrocarbon and oxide of nitrogen standards.

I understand that the distinguished gentleman from California, the chairman of the subcommittee, will be offering an amendment which probably goes even further than this, and with his kind cooperation, my amendment could probably be incorporated into his. I will look for opportunities to do this.

But the point that I am trying to make with this amendment is that we have to use every possible method in order to encourage and to create markets for vehicles which are completely different from today's vehicles. They have to be very low-emission vehicles. We may even need to move to systems such as electric vehicles or hydrogen-powered vehicles. We need to gain momentum in achieving this as quickly as possible. Hence, I think it is desirable that we begin to incorporate provisions of this sort into the Clean Air Act.

Mr. Chairman, I strongly urge the approval of this legislation. I think it is a landmark step forward. I do not expect that we will, of course, solve all of these problems, probably not in my lifetime, but we must continue the fight which has, as I have indicated, been going on now for over 30 years and which is vitally important to the health and welfare of this country.

Mr. Chairman, I am including for the RECORD a copy of my amendment and an explanation.

Page 217, after line 14, insert:

"(9) UNITED STATES GOVERNMENT VEHICLES.—Within 18 months after the date of enactment of the Clean Air Act Amendments of 1990, each State which has received a waiver pursuant to section 109(b) and which contains all or part of an Extreme ozone nonattainment area shall submit a revision to the implementation plan applicable to the Extreme area setting forth requirements for 1994 and later model years vehicles acquired by the United States. Such revision shall require that each vehicle purchased, leased, procured, or otherwise acquired by an agency, department, or instrumentality of the United States and operated primarily in the Extreme area shall comply with the most stringent standards for emissions of reactive hydrocarbons and oxides of nitrogen which the State determines may feasibly be achieved by vehicles of such class and model year. The State may waive the requirements of this paragraph to the extent that the United States demonstrates that vehicles complying with such standards, or fuels required for their operation, are not available.".

EXPLANATION OF THE GEORGE BROWN AMENDMENT TO THE CLEAN AIR ACT

The fundamental purpose of this amendment is to increase the federal role in creating markets for alternative fuels and alternative fueled vehicles.

This legislation would apply only to states which have received a waiver pursuant to section 209(b) and which contain all or part of an extreme nonattainment area (currently only Los Angeles Basin, California). This proposed amendment would provide that, when acquiring new vehicles commencing in model year 1994, the federal government would be required to obtain vehicles meeting the most stringent emissions standards adopted by the state for reactive hydrocarbons, and oxides of nitrogen which the state determines may feasibly be met for such class and model year vehicles. The requirement could be waived if the federal government demonstrates that such vehicles or their fuels are not available in sufficient quantities to meet the government's needs.

If our nation is to realize the substantial environmental benefits offered by cleaner fuels and cleaner fueled vehicles then the federal government must demonstrate its commitment to the purchasing and use of such vehicles and fuels. By so doing, the federal government would encourage additional private sector research and development efforts, stimulate market development, and reduce its contribution to the deterioration of air quality.

□ 1710

Mr. WAXMAN. Mr. Chairman, I yield 5 minutes to the gentleman from California [Mr. LEVINE].

Mr. LEVINE of California. Mr. Chairman, first of all I would like to commend the leadership of the committee on a bipartisan basis for the fine work that they have done in bringing this bill to the floor. I would particularly like to commend my close friend, the gentleman from California [Mr. WAXMAN] on the superb job that he has done on addressing numerous critical air-pollution problems threatening the health of millions of Americans and for the leadership which he has provided to us, not just in southern California, but throughout the country, on this critical issue over the course of the past decade and even before that.

Even with the superb work that the committee has done in putting this bill before us, Mr. Chairman, there remains a gaping loophole in this legislation which I urge my colleagues to join me, as well as the gentleman from California [Mr. LAGOMARSINO], the gentleman from California [Mr. LOWERY], and the gentleman from New York [Mr. GREEN], in closing, and that is the loophole of offshore platforms that escape all regulation under the Clean Air Act.

Under the 1978 Outer Continental Shelf Lands Act, the Department of the Interior was to regulate all offshore operations in Federal waters. Twelve years later, DOI has yet to finalize a rule for California and has not even begun to address the issue in the gulf.

One might ask, what is the big deal about this issue? The platforms are off-shore and how much could they pollute anyway?

The answer is that this source of pollution is in fact a very big deal. The daily emissions of a platform off the coast of California is equal to 15,000 to 100,000 automobiles. In California there are roughly 20 platforms in Federal waters within 25 miles of shore. Some of those have already contributed to violation of State and Federal air quality standards.

I originally became involved in this aspect of this issue, Mr. Chairman, because of my concern for California's air quality, but this is not just a California issue. There are about 2,000 platforms within 25 miles of shore in Federal waters in the western gulf. These platforms are contributing to air pollution in as many as two dozen coastal counties and parishes which are nonattainment of one or more Clean Air Act standards.

In reviewing the EIS's for gulf sales over the last few years I have found that the EPA has consistently expressed concern about the problem, and yet DOI has done nothing about it.

Let me just read two quotes from 1988 EPA comments on a gulf sale EIS:

We seriously wonder if EPA and Texas-Louisiana efforts at ozone abatement will be partially or perhaps totally nullified by the huge increase in volatile organic and NO_x from the new drilling activity. The introduction of 132,000 tons per year of NO_x and 49,000 tons per year of VOC upwind of gulf coast nonattainment areas is practically tantamount to locating another Houston there.

DOI has been negotiating a rule in California for over a decade. The most recent draft was resoundingly denounced by the EPA, the State of California, and the local air districts. DOI has failed at its task, plain and simple.

The Levine-Lagomarsino-Lowery amendment which we will offer to this bill on Wednesday, Mr. Chairman, will rectify this serious problem, and I urge Members to support it.

Our amendment would require the EPA to regulate all platforms and the vessels that service them, and platforms and service vessels within 25 miles of State waters would have to comply with the same requirements as similar sources in State waters or on shore.

In addition, our amendment will address a growing concern that toxic air pollutants end up in the Nation's coastal waters. We are concerned that these toxics are bioaccumulating in the food chain, including fish and waterfowl which are taken for human consumption, and then present a direct threat to human health.

The amendment would require the EPA to complete a study of airborne deposition of toxics in coastal waters and their tendency to bioaccumulate in the food chain. If the EPA finds that the Clean Air Act does not pro-

tect human health or the environment from airborne depositions, the EPA would be required to develop regulations to prevent such adverse effects.

Mr. Chairman, I urge Members to support this amendment when we do offer it on Wednesday. It will be a bipartisan amendment. It will correct these important omissions of what is otherwise a very, very significant and important piece of legislation that I very much hope will pass resoundingly on the House floor in the next several days.

Mr. LENT. Mr. Chairman, I am pleased to yield 10 minutes to the gentleman from Pennsylvania [Mr. RITTER].

Mr. RITTER. Mr. Chairman, everyone agrees that we need to improve our environment. No one disputes that the American people demand healthier, cleaner, and clearer air. And we should help them get it.

There is an old saying that success begets success. The 1970 Clean Air Act, with its 1973 and 1977 amendments, has been very successful and it continues to improve air quality. According to the EPA, from 1978 to 1987, lead, perhaps the most important emission from the standpoint of human health, has been reduced 94 percent; ambient levels of sulfur dioxide are down 32 percent; particulates, down 21 percent; and ozone levels, down 16 percent.

Tailpipe hydrocarbons and carbon monoxide are down 96 percent and oxides of nitrogen are down 76 percent. That's not a record we should ignore. Further tightening of tailpipe emission standards for new cars won't clean up those cars on the road that are dirty—cars that were built before emission controls, some of which may be very dirty, and cars built after controls that are out of tune. It is crucial that we focus far more resources on cleaning up gross polluters if we wish to be successful. The rational solution is not necessarily tighter new car emission regulations, but detection systems to locate gross polluters and get them back in tune, whether old or new. An amendment by the gentleman from Texas [Mr. BARTON] to this effect which I strongly support is part of our committee bill.

In any event, the turnover of the fleet does the lion's share of emission reduction.

The electric power generating industry has decreased the average sulfur content of its coal by almost 33 percent since 1973. Sulfur dioxide emissions are down 29 percent. All this while coal use has increased over 80 percent. It represents a remarkable yet untold success story. But even here scrubber-based control has reduced acid-buffering particulates and created highly airborne aerosols of sulfur which pose new problems. Scenarios for the next 20 years show limited differences between the projected effects of current clean air law and 1990 amendments regarding SO_2. The main reason for such limited differences is that over the next 20 years, older plants will come into compliance with current NSPS. Targeted investment tax credit incentives to replace those plants earlier than projected could have been most helpful.

While it is discouraging that Congress ignored its own one-half of a billion dollar, 10-year NAPAP study, the administration's plan for using the marketplace to trade emissions seems, at this stage, to be a creative, innovative, and useful way to help pay for further sulfur dioxide-based, acid rain reduction.

On NAPAP, we, in the House, did not hold one hearing. That's right, not one single public hearing on this 10-year study. Congress' own 10-year one-half of a billion study could have served as a guide, but it has been ignored. Clean coal technology is also given relatively short shrift by this bill.

Also, if coal scrubbing is the main technology for further SO_2 clean-up, we end up substituting a major solid waste disposal problem for an air problem. Each 1,000 megawatt coal-fired power plant generates 1 square mile of 1-foot-thick scrubber sludge each year. Greater emphasis on clean coal technology would go a long way to reduce this substitution of one environmental problem for another.

Mr. Chairman, to get markedly cleaner air than we have now we need better applications of science and technology far more than a new regulatory straightjacket. One amendment I have presented to the Rules Committee for their consideration is aimed at encouraging clean coal technology by allowing a 1-year extension for existing units using clean coal technologies. My amendment will require that they not only pay back the additional allowances, but with interest. This would both encourage the use of clean coal technology by providing slightly more time needed to develop the technology, and also, upon implementation of the technology, pay back more allowances than they borrowed, showing a net gain in emissions reduction.

The Waxman/Lewis amendment to mandate production of alternate fuel vehicles including heavy-duty trucks may be well intended but it is unwise. Heavy-duty vehicles and trucks over 14,000 pounds gross vehicle weight are used for a diverse range of activities and require added consideration when the use of alternative fuels is debated. This Ritter amendment will assure that the regulation of heavy-duty vehicles and trucks over 14,000 pounds gross vehicle weight is not only well intended, but well informed, and technologically feasible.

The amendment I have provided to the Rules Committee authorizes a mechanism to allow the Environmental Protection Agency to establish emissions standards for vehicles and trucks of 14,000 pounds gross vehicle weight and above. The amendment is necessary because the Waxman/Lewis clean-fuel vehicles amendment fails to consider the following:

First. The practical effect of the Waxman/Lewis clean-fuel vehicles amendment's heavy-duty engine requirements will be to kill the diesel engine.

Second. The EPA has determined that compared to diesels, lead-burn CNG vehicles would be expected to result in a 13 to 15-percent increase in greenhouse gases and increased potential global warming impact.

Third. Given the estimates in the April 1990 EPA report on alternative fuels, even an optimized CNG engine at best offers minimal ozone reduction benefits over a 1994 heavy-duty diesel engine.

Fourth. The EPA has recently determined that given the relative engine efficiencies, the fuel storage, weight impacts, and fuel prices, fuel economics favor a diesel engine over an optimized CNG engine.

Fifth. Methanol creates severe serviceability problems due to its highly poisonous and corrosive nature. Service and repair personnel will be put at risk.

This amendment on heavy-duty diesels conforms to the original H.R. 3030 as introduced.

For this historic legislation, there's also the issue of American industrial jobs. Excessive regulation of the very marginal environmental hazards puts jobs of American workers, particularly those in manufacturing, and "Made In America," itself in danger. Imports and foreign workers are the winners.

Make no mistake about it. Large numbers of American steel, truck, auto, cement, utility, and manufacturing workers in general, and their families can be severely hurt by very specific provisions in this bill.

Is the American taxpayer going to be called upon to ante up benefits if those jobs are lost to foreign competition?

I sincerely hope the $20 to $50 billion a year that this bill will impose on American consumers, their jobs, and their communities will add real tangible environmental and health benefits. We must ensure the benefits are real.

I am requesting that my amendment to quantitatively and qualitatively assess the public health and environmental benefits associated with the EPA regulatory programs which derive from this act, be ruled in order by the Rules Committee. My amendment would authorize a formal mechanism to inform Congress of the incre-

mental health and environmental benefits of the 1990 amendment's emission reductions. It would require the EPA to list the most hazardous emissions in rank order, worst first and the costs and health benefits associated with each as a result of this act, evaluated. Such an assessment would help us to determine where our priorities should be placed and avoid great cost of reductions in one area while ignoring far more hazardous areas.

I firmly believe America should make major investments in further cleaning up the air we breathe. We could do much more to identify the dirty businesses, utilities, and vehicles, and rifle-shot their cleanup. We could be more successful in achieving clean air if we were more focused and our policies more scientifically based.

I also believe, at a fraction of this act's costs, we could make nature's beauty more accessible to citizens throughout America, not just in faraway national parks. Federal incentives for State and local environmental investments could be made to create or preserve greenspace, wild lands, or parklands in our urban or suburban areas. Our regional rivers could be restored while giving access to the public to experience their natural heritage.

This would mean environmentalism that you can see; that you can smell; that you can touch.

What I have been describing is just a fraction of a more tangible environmental progress. Not like so much of what we deal with in Washington, DC—worst case risks blown up out of all proportion to reality so that much of our environmental legislation is far less effective than it could be.

Mr. Chairman, I do not oppose the bill. Indeed, I supported its passage in committee. I would hope however that we learn from our experience here and, in future environmental legislation, pay more attention to scientific merits of the debate and a little less to the political science.

Environmentalism as religion may be attractive to some, but has no place in the U.S. Congress.

Finally, I would like to express my great respect for our Chairman, the gentleman from Michigan [Mr. DINGELL], who exhibited the patience of Job in leading the committee through the veritable minefields of conflicting politics and policies. I'd like to express, too, my admiration for the gentleman from California [Mr. WAXMAN] whose perseverance and political skill has been the leading force in the success of this legislation. My own ranking member, the gentleman from Newark [Mr. LENT], did yeoman service in seeking to bring greater reality to the process.

Our colleagues and their respective staffs also deserve credit for the massive task of helping to forge the final legislative product.

Mr. Chairman, this is indeed a historic moment where the U.S. Congress is on the verge of passing, by far, the most stringent regulatory program over energy production, transportation, and industry in history.

I sincerely hope we achieve the desired results.

□ 1720

Mr. WAXMAN. Mr. Chairman, no Member of this institution has greater credit due him for the battle for reduction of acid rain pollutants than the gentleman from Minnesota [Mr. SIKORSKI]. In the 98th Congress, he introduced H.R. 3400; in the 99th Congress; H.R. 4567; in the 100th Congress, H.R. 2666; and in the 101st Congress, H.R. 1470.

The gentleman from Minnesota [Mr. SIKORSKI] has been the absolute single-handed champion of acid rain, far and above any other Member of this institution. He has clearly established himself as one of the handful of leading environmentalists in the Congress of the United States. I am pleased to yield such time as he may consume to the gentleman from Minnesota [Mr. SIKORSKI].

Mr. SIKORSKI. Mr. Chairman, I thank the gentleman from California for yielding time to me. It has only been my pleasure to stand in his shadow as clean air has advanced. I have benefited in remarkable ways because of that, and I thank the gentleman from California for allowing me to help out on acid rain.

I also should comment that Mickey Leland took on the air toxic issue 1½ years ago, and we miss his efforts there.

Mr. Chairman, this week we make history in this Chamber. Today the U.S. House of Representatives takes up, for the first time in 13 years, the Clean Air Act. Most of the Members of this body, including myself, were not even here the last time this act was debated on this floor.

Our understanding of clean air 13 years ago was incredibly small compared to what we know today:

Catalytic converters were just beginning to go in cars; lead was just beginning to come out of gasoline.

Pollution control in 1977 for many companies, meant building taller smokestacks to send acidic pollutants, to rain down as acid rain hundreds of miles away.

Acid rain wasn't in America's vocabulary and most Members of this body probably had no idea that this so-called solution of tall smoke stacks threatened America's lakes, lung's and forests just as it had already killed hundreds of thousands of acres of trees in Germany and, as we now know, in the Eastern bloc.

No one dreamed then that over 2 billion pounds of toxic pollutants, carcinogens, and mutagens, cripplers of the body and cripplers of the mind, were being shot into the air every year—no one had bothered to make industry count.

And a seemingly pristine lake in the middle of the largest island in the middle of the largest freshwater body in the world, Lake Superior, had not yet yielded the secret that these toxic killers were being transported thousands of miles, to settle in our lakes and streams and forests, our communities and our lungs, across the country.

We know now and with knowledge comes responsibility, and with dominion over the land and sea and air, as Genesis tells us, comes the responsibility of stewardship. The legislation before us takes a step on the road to stewardship.

As far as I'm concerned, it won't go far enough. It won't do everything. And it won't do it fast enough. Any document of this scope, approved by a body of this breadth and diversity, dealing with issues of this scope, is bound to have shaved corners and rounded edges.

And by the time this body has finished its consideration, I am hopeful we will have bettered the clean air laws of America. Finally, after almost a decade of administration footdragging, we will deliver on the President's proclamation of last summer: That every American will breathe clean air. We won't deliver on that promise as swiftly as I had hoped and fought for, and for the residents of this Nation's two largest cities, it will not be done within the President's own deadline of the end of this century. But it will do so.

CREDITS

The clean air bill and the amendments before us today are testimony to men and women of will and vision. Like the chairman of the Health and Environment Subcommittee, HENRY WAXMAN, and like the tireless advocate for the threatened, the champion on air toxics, Mickey Leland.

HENRY WAXMAN has been the guiding light for clean air legislation for over a decade now—against ferocious attacks on the environment during the Reagan administration—articulating and successfully implementing a vision of a cleaner, safer environment, for this generation and generations to come. Mickey Leland was the moral beacon to whom this bill should be dedicated.

Credit must go to those Members of Congress who worked tirelessly over the years to bring us to the brink of victory today in the war on acid rain: SILVIO CONTE, SHERWOOD BOEHLERT, MO UDALL, BILL GREEN, and again, most importantly, HENRY WAXMAN. Finally, credit goes to those members of the Energy and Commerce Committee who worked long and hard and in good faith to fashion the clear air package

before us today, including BILL RICHARDSON, MIKE SYNAR, AL SWIFT, DENNIS ECKART, ED MARKEY, RON WYDEN, JOHN BRYANT, JIM BATES, JIM COOPER, PHIL SHARP, JIM SLATTERY, CARDISS COLLINS, TERRY BRUCE, TOM MCMILLEN, ED MADIGAN, CARLOS MOORHEAD, and MATT RINALDO.

Today's clean air bill is also testimony to the political skill and pragmatism of Energy and Commerce Chairman JOHN DINGELL, ranking minority member, NORM LENT, and President George Bush.

I want to discuss two clean air issues that have been particularly important to me—acid rain and air toxics—and to suggest some areas where this Clean Air bill needs some cleaning and improving.

ACID RAIN

For years, I've felt like the John Baptist of acid rain control. I've been preaching my sermon, and winning many converts—over 180 of them on the most widely supported acid rain legislation ever introduced in Congress—with the message that when it comes to acid rain control, the day of judgment is at hand. You know the sermon:

Every day more than 176,750 tons of sulfur dioxide and nitrogen oxide—the equivalent of 4,144 fully loaded freight cars—are shot into the skies of North America. Every 24 hours! And what goes up comes down. It comes down in the form of rain, snow, sleet, precipitation or dry deposition. It's called acid rain. And it destroys lakes and lungs, forests, and farmlands, hunting and fishing, our environment and our economy.

For 13 years, here and in the Minnesota State Senate, I've been working for the day when acid rain control would finally be the law of the land. I am delighted that that day is at hand.

Since arriving in Congress 7½ years ago, I have worked to draft legislation to protect the environment and human health from acid rain while protecting jobs from dislocation and ratepayers from excessive electricity rate increases. In four successive Congresses I introduced acid rain control legislation that drew widespread, bipartisan, national support because it successfully did just that. I am happy that this committee, by a 42-1 vote, has approved clean air legislation containing an acid rain control title that will begin doing what should have been done over a decade ago.

This legislation includes a number of important findings on acid rain:

That acid rain resulting from emissions of sulfur and nitrogen oxides "represents a threat to natural resources, ecosystems, materials, visibility, and public health";

That "the problem of acid deposition is of national and international significance and cannot be addressed adequately without effective State-Federal cooperation";

That strategies and technologies to control acid deposition exist now and are economically feasible; and

That "current and future generations of Americans will be adversely affected by delaying measures to remedy the problem."

These findings are not new. They are not surprising. They represent the collective wisdom of years of research, over 6,000 studies on acid deposition, and literally hundreds and hundreds of hours of public testimony by expert witnesses before subcommittees of the Energy and Commerce Committee. Nearly a decade ago, the National Academy of Sciences [NAS], this country's most prestigious national scientific body, called for a 50-percent reduction in sulfur dioxide emissions to control acid rain. This legislation will almost do that—nearly two decades, by the time controls are required, after the NAS's call.

These findings also recognize the tremendous costs of acid rain:

The EPA has found that ozone levels in many parts of the country, in part the result of nitrogen oxides, reduce crop yields up to 33%. The damage: $2 to $3 billion per year.

The Interior Department has estimated acid rain damage to materials, buildings and historical monuments at up to $60 billion per year.

The Congressional Research Service reports annual forest damage from acid deposition in the Eastern United States alone at $1.75 billion.

Seventy-six million Americans pay with their lungs and bodies the direct health costs of exposure to excessive ozone. Sulfur dioxide, nitrogen oxide and ozone injure pregnant women and threaten people with heart disease, asthma, bronchitis or emphysema.

The American Lung Association 5 years ago reported that the human health costs alone from air pollution run as high as $40 billion annually. This year they issued an update: the human toll from air pollution now stands at $100 billion per year.

The Congressional Office of Technology Assessment estimates that 50,000 Americans die prematurely each year due to the chemical precursors to acid rain. Researchers at the John F. Kennedy School at Harvard University put this figure closer to 100,000 premature deaths each year.

The list of costs goes on and on—visibility, forestry, fishing, monuments, human life—but the bottom line is clear. Air pollution exacts a price in money, lives and irreplaceable economic and natural resources.

The ability of this committee to arrive at an acid rain title that fairly addresses most of the concerns of Members representing all regions of this country illustrates the veracity and strength of the premise underlying legislation I have introduced in each of the last four Congresses: effective control of acid rain can be achieved without unduly burdening any consistuency or region of the country.

The acid deposition title reported by this committee shares the approach that has highlighted acid rain legislation I have introduced in every Congress since the 98th; the combination of strong controls to protect the environment and human health with balancing features to ensure that jobs and electricity rates in no region of the country will be substantially harmed.

In the 98th Congress, I joined Health and Environment Subcommittee Chairman HENRY WAXMAN in authoring H.R. 3400, the National Acid Deposition Control Act. This legislation garnered strong bipartisan support in the House of Representatives, with over 135 cosponsors from every region of the country. This nationwide support stemmed from the dual core elements of the legislation: A strong, 14-million-ton reduction in the precursors of acid rain, combined with billions of dollars in assistance to regions particularly affected by acid rain reductions as protection against loss of jobs or utility rate increases. Despite this protection, in the face of intense opposition from the very industries and groups it was designed to protect, the legislation failed in subcommittee by a single vote.

In the 99th Congress, I introduced H.R. 4567, the Acid Deposition Control Act of 1986, the most broadly supported acid rain control bill in the history of Congress. Over 180 House Members gave this bill a bipartisan, geographically broad base of support. This legislation called for a similar 14-million-ton reduction in sulfur and nitrogen oxides, and provided protections for jobs and against increases in electricity rates of more than 10 percent in any single State.

In the second session of the 99th Congress, industrial polluters spent more in opposition to this legislation than on any other issue before Congress. The Health and Environment Subcommittee passed H.R. 4567 by a vote of 16 to 9, but a series of procedures and delays prevented full consideration of the legislation by the full committee.

In the 100th and 101st Congresses, I introduced similar legislation—H.R. 2666 and H.R. 1470, respectively—which again attracted the most cosponsors and the most bipartisan, nationwide cosponsorship of any acid rain control legislation in those Congresses. Again the legislation contained safeguards to protect industries, regions and individuals against economic hardships. Again those who make money from pollution opposed it. And against those whom the bill would have protected from economic shock opposed it. In the 100th Congress, the Health and Environment

Subcommittee held hearings and reached tentative agreement on H.R. 2666 before Clean Air Act legislation stalled over other issues.

In the 101st Congress, the Clean Air Act amendments proposed by the Bush administration contained the first ever administration-backed acid rain proposal. It called for acid rain reduction goals identical to the reductions achieved in my legislation and included a feature for which I had fought—a cap on emissions to prevent deterioration of acid rain reductions in later years.

The Bush administration's 180-degree reversal from the past 8 years of administration policy is testimony to the desire of the American people to stop acid rain once and for all.

In subcommittee markup, clean air advocates succeeded in removing features in the Bush proposal directly contrary to the goal of acid rain control which were, most notably a repeal of existing legal protections against tall smoke stacks which cause acid rain.

We also improved significantly in markup on the administration acid rain title: by making the emissions cap and allowance trading system more workable; by providing additional allowances to ensure that Midwestern ratepayers won't be subject to rate-shock; and by encouraging technology that will lessen the employment impacts of H.R. 3030.

This legislation is also environmentally superior to the administration bill:

It requires a real 10-million-ton reduction, rather than projecting it, by imposing an absolute cap on utility emissions;

It provides incentives for earlier SO2 reductions;

It provides incentives for using conservation and renewable energy for acid rain compliance;

It increases NOx reductions from the 2 millions tons called for in the Administration bill to 2.5 million tons (and up to 4 million tons if the EPA finds it cost-effective). When combined with the additional NOx reductions achieved in the Committee's mobile sources provisions this should produce real reductions in NOx emissions.

It restores citizens' rights to ensure enforcement of the law.

National acid deposition control legislation is long overdue. I have been working toward it since my days in the Minnesota State Senate. In 1978 I coauthored a resolution calling for adequate safeguards at the Atikokan powerplant in Canada, near the Minnesota border, which threatened the wilderness land of the Boundary Waters Canoe Area in northern Minnesota. In 1980, the Minnesota State Legislature passed the first legislation in the history of the North American acid rain debate, and 2 years later, the first acid rain deposition control law in North America.

The acid rain title reported by the Energy and Commerce Committee is the product of much hard work and sincere efforts by members of the committee. Credit must go, however, to those Members of the House who have worked over the years to focus attention and to draft a balanced, national approach to this national problem: most prominently, SILVIO CONTE, SHERRY BOEHLERT, and MO UDALL. The greatest credit for passage of national acid rain control legislation belongs to the leadership, guidance and vision of HENRY WAXMAN.

H.R. 3030 as reported by the Energy and Commerce Committee takes good, solid first steps toward addressing the problem of acid rain fairly, firmly, and adequately. Such an approach is long overdue.

AIR TOXICS

Last spring we learned that more than 2.7 billion pounds of toxic chemicals—over 10 pounds for every American man, woman, and child—are released directly into our air every year. This spring we learned that the deluge continues. The data was the result of an amendment I helped author to the Superfund law 4 years ago known as the Community Right To Know Act. Industry fought us tooth and nail on this amendment. They told us that, "what we don't know can't hurt us." They were dead wrong.

We have also learned that Great Lakes residents are at special risk: Great Lakes residents are exposed to more toxic chemicals and carry a higher toxic body burden than any other comparable population in North America; more than 50 percent of Great Lakes toxic pollution comes from the atmosphere; environmental pollution directly threatens human health through bioaccumulation in the food chain, which has rendered close to 30 species of fish unsafe for consumption by women of child-bearing age and children, and increased the cancer risk of cancer from eating one meal a year of contaminated Great Lakes fish to 1,000 times what the EPA considers acceptable.

The air toxics title of this legislation goes a long way to ending the threat of toxic air pollutants. It includes a provision on Great Lakes air toxics that I worked to have included and worked to strengthen. This amendment ensures that if toxic chemicals continue to threaten the Great Lakes, they will be regulated. We also succeeded in extending this provision to the threatened Chesapeake Bay region. I support an amendment which will be offered by Congressmen LEVINE and LOWERY which does what my amendment would have originally done: extend the study to all threatened coastal waters.

STRENGTHENING AMENDMENTS NEEDED

More needs to be done, if we are truly to deliver on the President's promise that all Americans will breathe clean air:

AUTOS

Last year 130 million Americans breathed unhealthy levels of smog and carbon monoxide. The single largest cause: the automobile.

First. This legislation should help the President keep his promise—his clean air centerpiece—to produce 1 million alternative fuel vehicles per year by the turn of the century. The current bill does not. Waxman-Lewis amendment puts the President's words into law.

Second. Americans in most of America's cities simply won't breathe clean air until gasoline is made cleaner. And that's not hard to do. It's not a Buck Rogers or Nintendo fantasy. In fact, gasoline produced today is actually dirtier than that produced 10 years ago, with an extra dollop of carcinogenic aromatics. The Richardson-Madigan amendment will require cleaner gas in those cities that are grossly out of compliance, and give a boost to the American farmer at the same time.

Third. Emission control equipment on our cars do the heavy cleanup work on auto emissions. They are effective, when they work and they work when they are warranteed. But H.R. 3030 actually weakens emission warranty requirements that exist today. I will be offering an amendment with Congressman BILL GREEN to reverse the weakening of existing law and increase warranty requirements on the two big items of emission control equipment—the catalytic converter and electronic control unit, or ECU. This will ensure that consumers and the environment don't get stuck with the bill for faulty equipment. And it helps the mom and pop service stations. This amendment is supported by the major environmental and consumer groups and most of the trade associations representing independent auto service shops that repair cars. First, Levine-Lowery will protect coastal areas from smog and air toxics; second, Richardson will prevent chemical accidents; third, Wyden will restore visibility in our national parks; fourth, Bates-Boehlert will phase out the production of CFC's and other chemicals that destroy the ozone layer; and fifth, finally, gaping holes in enforcement and permitting provisions in H.R. 3030 need to be closed. Congressmen WAXMAN and BRYANT will have an amendment to do just that.

Until the Members of this Chamber put their voting cards where their mouths are, their words will be more hot air pollution. A strengthened H.R. 3030 can be worthy of its title, "Clean Air."

CONCLUSION

Our job, as democratically elected representatives in this great democratic system, is to cut through the wall of smog spewed out by those for whom the only good clean air bill is a dead

clean air bill, and get about the task of protecting those we were sent here to represent: the American people. Our job as intelligent men and women is to see through the lies and half lies, the untruths and the false truths, to the real values that make this country great. Our job as stewards of the land, the sky, the water, is to preserve these glorious legacies for the generations of Americans to come.

The Clean Air Act amendments is one of the few chances we as elected Representatives have to make a literally visible difference. A life or death difference. Amendments will be considered this week—the Waxman-Lewis amendment on clean cars, and coastal waters, and the amendment to be offered by Congressman GREEN and myself on auto warranties that will positively, concretely protect the beauty of America and the health of Americans.

Our legacy to our children, and to their children, must be more than a nation of belching smokestacks and tailpipes—it must be the ability to look across the Grand Canyon.

Our legacy to coming generations must be the opportunity to breathe deeply, without worrying about birth defects or lung disease.

Our legacy must be more than dirty air, devastated resources and damaged lungs; it must be a cleaner environment, a revitalized American economy and a better life.

□ 1730

Mr. LENT. Mr. Chairman, I reserve the balance of my time.

Mr. WAXMAN. Mr. Chairman, I am pleased to yield 7 minutes to the gentleman from West Virginia [Mr. WISE].

Mr. WISE. Mr. Chairman, I appreciate the gentleman yielding this time to me.

Mr. Chairman, the Clean Air Act is something definitely whose time has come. As one whose district and State are affected in every possible way—we are ardent environmentalists, we love to hunt and fish in West Virginia, we make our living from the chemical industry, the steel industry, from the coal industry.

We generate our power for all of the east coast. As I say, there is no way that we are not affected in every way by clean air.

I also note that I grew up in an area, and I have seen the benefits of earlier clean air acts and Clean Water Act, where we can now fish, swim, and water ski in rivers that once were too polluted for those activities. I can breathe air that does not have an odor to it; that when I earlier grew up in earlier years on air-inversion days, you just stayed inside.

So I know the importance and significance of this legislation before us.

As we deal with the environment, I think it is also important that we deal with the needs of those people who are affected by that legislation. In that case, we need to also provide for the workers who may be affected by this legislation.

So I would like to talk for a moment about the amendment that I will be taking to the Committee on Rules and asking them to make in order, the clean air workers transition amendment.

I stress the word "transition" because this amendment is simply that, helping workers to make a needed transition who may be affected adversely by implementing the Clean Air Act.

First, I think it has to be pointed out that this is a transition program with limited benefits, modeled after existing programs, in this case the Trade Adjustment Assistance Act.

It provides very limited benefits of 6 additional months of unemployment for a total of 1 year and up to 2 years of training; once again, totally in line and in keeping with existing programs already on the books.

I would like to talk just a moment about what this amendment is and is not.

First of all, this amendment is a transition program, to enable workers who can successfully show and document to the Department of Labor that they lost their jobs due to the implementation of the Clean Air Act in their industry to make a transition to other work. It is not a protection amendment. It does not protect one job. It does not protect or guarantee employment for a longer period of time or indeed any period of time. It simply helps them make the transition by, once again, providing 6 additional months of unemployment benefits and that would provide them a total of 1 year and up to 2 years of training.

This amendment is limited in benefits. It is not unlimited. It is not large scale. Its benefits are only temporary. It has a maximum ceiling of $250 million authorization over a 5-year period, for a 5-year program, and thus would be roughly $50 million per year.

It is limited in benefits, it is not unlimited. This amendment applies to all workers. It is not limited to one group of workers.

I have heard questions about, "Is it limited only to high-sulfur coal miners?" Or, "Is it limited to one region of the country?" And the answer is "no" to those questions.

The amendment applies to all workers, chemical workers, autoworkers, utility workers, coal miners, whomever may successfully show that they have lost their jobs due to implementation of the Clean Air Act.

Furthermore, the amendment is applicable to all regions. It is not a region-specific amendment, it is not dedicated simply to West Virginia, to the Midwest, to high-sulfur coal-producing regions. In fact, I think you will find this amendment has great application from Texas City, TX, to New Jersey to California to wherever there may be difficulty in implementing the Clean Air Act.

So, it is not limited to one group of workers, nor is it limited to one region, but indeed is a comprehensive amendment.

This amendment is simply an extension, in many ways, of existing programs. This amendment is not the creation of a new bureaucracy or a new program that is unfamiliar to this Congress. Indeed, it is closely modeled after, in every possible way, the Trade Adjustment Assistance Act.

It was my deliberate intent in drafting this amendment, and those who put it together, to work with a procedure that we were all familiar with and that would not result in an additional bureaucracy.

So we set up something similar to the Trade Adjustment Assistance Act. We have workers apply to the Department of Labor, and if they can successfully show they lost their job due to the implementation of the Clean Air Act as a major contributing factor, they would be entitled to these benefits, assuming the money is available. And that, of course, is determined by the Committee on Appropriations.

So it is an extension of existing programs, it is not the creation of a new program or, more importantly, a new bureaucracy.

Finally, I think it is important to talk about what this amendment is.

This amendment is a strengthening of the Clean Air Act. It is not a challenge to the Clean Air Act, it is not a weakening of the Clean Air Act. It is simply saying we can have the environment and we can have jobs and we can have both. This amendment strengthens the Clean Air Act.

I believe it takes a lot of the fear that many people genuinely feel who want clean air. "We want clean air for our children to breathe, but also desperately we want our job."

What this says is that "you need not fear the Clean Air Act, that we will help you make the transition in a just and humane society." That is something that is necessary to do.

Mr. Chairman, the chairman of the full committee, the gentleman from Michigan [Mr. DINGELL], has spent long hours, weeks, months, whatever, putting together the compromises that are necessary. And the gentleman from California [Mr. WAXMAN], the subcommittee chairman, also.

So I think as they have put together the compromises to try to meet the various needs that we all express, this is one additional measure than can go a long way toward making this the

kind of legislation we can all embrace happily, particularly those people who are sitting at home wanting this bill to pass but also who are questioning, "What happens to me?" This is their insurance policy that they will get to make the transition and indeed we can have the environment and we can have the jobs that go with it.

I thank the chairman very much for the opportunity to speak today.

□ 1740

Mr. LENT. Mr. Chairman, I yield 10 minutes to the gentleman from Ohio [Mr. REGULA].

Mr. REGULA. Mr. Chairman, the importance of this legislation and the importance of producing a balanced bill is well illustrated by a quote from U.S. News on June 19, 1989. It is entitled "The Coming Power Crunch." I quote:

America's next energy crisis is building like a billowing August thunderhead. The first hot flashes will hit the crowded Eastern Seaboard during the sweltering days of summer and spread throughout the country by the mid-1990's. Instead of irate motorists queued up at gasoline stations, the new crunch will be marked by dim lights, bulky computers, stuffy office buildings, and perhaps even total blackouts in some areas. Those temporary discomforts pale beside the long-range economic consequences if the United States lacks an adequate supply of electricity to power its homes, factories, and offices in the coming decade.

I think that illustrates the importance of having a balanced bill and what I would like to discuss briefly.

When the President announced the broad outlines for sweeping revisions to the Clean Air Act, I was cautiously optimistic about the acid rain portion of the administration's package. The President promised a plan which would allow utilities maximum flexibility in achieving emissions reductions. He called for a market based approach which would promote least-cost compliance. And most importantly, he pledged to maintain and enhance the viability of the clean coal program.

Somewhere between the Rose Garden ceremony and the legislative drafting board those principles have been compromised.

I have been a strong supporter of the Clean Coal Program since its inception in 1985. To date the Federal Government has committed some $2.7 billion to this program to demonstrate innovative technologies to burn coal more cleanly and efficiently, certainly in an environmentally safe manner. The private sector is committing even greater amounts.

In the State of Ohio, the voters approved a $100 bond issue to do research on clean coal technology. It would be a travesty to waste this substantial investment of both public and private funds. Caution must be exercised so that arbitrary compliance deadlines do not prevent clean coal technologies from being a part of the pollution solution.

Sound environmental policy must include consideration of both economics and the environment.

The future of the Nation's economy is inextricably linked to continued availability of reasonably priced energy. Therefore we will continue to realy on coal to meet future energy demand. Clean coal technologies will enable Americans to burn coal in an environmentally sound manner.

Acid rain legislation which does not provide sufficient time for development nor provide appropriate incentives, may result in these new technologies not being developed or used to meet energy requirements in the United States or abroad.

I note that one of the previous speakers, the gentleman from Pennsylvania [Mr. RITTER] pointed out that forcing the utility industry to use scrubbers will result in another great environmental problem, and that is sludge.

Clean cut coal technologies avoid that problem. Clean coal technologies are the key to a cleaner environment without undue burden to the ratepayer, the coal producer, or the mine workers.

I might say it also will protect our competitive position in the global economy.

The President's acid rain proposal calls for a reduction in sulfur dioxide emissions of 10 million tons by the year 2000 and a 2-million-ton reduction in nitrogen oxide emissions.

Utilities and industry will be forced to spend up to $7 billion a year and ultimately the consumer pays that, in a crash program to meet these arbitrary goals.

Unfortunately, this crash effort to reduce emissions will not permanently solve the problem because it will preclude the use of advanced technologies now being developed.

By forcing the use of scrubbers in old plants, instead of allowing utilities to phase in new clean coal-burning technologies, the acid rain program will degrade our ecosystem.

The mandated scrubbing will bring new pollution problems. Scrubbing generates 3 tons of sludge for every ton of sulfur dioxide removed. For each ton of sulfur dioxide removed scrubbing adds a ton of carbon dioxide into the atmosphere.

The burden of achieving emissions reductions would fall principally on Midwestern States, especially Ohio. A recent analysis of American jobs that would be affected by the proposed bill estimated that the acid rain provisions alone would impact over 46,000 jobs in Ohio alone.

The burden of costs under the current plan is not shared equitably nationwide.

Ohio would be asked to provide 18.6 percent of all SO_2 reductions despite the fact that Ohio, in 1985, contributed only 11.1 percent of the total emissions. This will result in an overall electric rate increase of 13 percent by 2000 and an estimated loss of 17,000 mining and related jobs. Utility rates are estimated to rise as much as 40 percent in some parts of Ohio.

Ohio ratepayers have already spent more for air pollution control than any other State. Private utility air pollution control expenditures through 1987 have totaled $2.1 billion.

Ohio's electric-intensive industries such as autos, steel, aluminum, and chemicals compete in tough, cost-conscious international markets. The quickest way to make Ohio's products noncompetitive is to drive up production costs. The acid rain proposal being considered would surely do that.

From 1975 to 1985, Ohio's electric companies have cut sulfur dioxide emissions by 37 percent, despite a 19-percent increase in demand over the same time period. By the year 2030, another 50-percent reduction in emissions would take place under current pollution control, with no new legislation. This would take place even though the demand for electricity from coal-fired powerplants will increase by 36 percent over the same period.

Under the proposed legislation more than 80 percent of the Nation's utilities and half of our States will not be allowed to participate in the Clean Coal Technology Program.

Clean coal technologies are an effective mechanism for achieving pollution prevention, not just control, and are also a cost effective means of producing electric energy from coal. Clean air legislation should provide adequate time and appropriate incentives for use of these technologies, otherwise, the United States may forfeit the energy and environmental benefits derived from use of these coal programs.

We should be in a position to share this knowledge with the rest of the world, especially with developing Third World countries, in an effort to improve global ecology.

I think all Members have heard the results in the Eastern European countries because of their failure to have environmental controls. The clean coal technology will be a highly marketable commodity, and we need to move forward rapidly in developing these programs.

I support the enactment of a strong clean air bill, but one that is both affordable and equitable. The impact of this proposal on the employment of our people and the competitiveness of our industries will be substantial. It is crucial that the legislation that is en-

acted does not damage our economic stance in the global marketplace.

I would say to my colleagues that I hope out of the negotiations between the House and the Senate and the conference working with the administration that we can get a bill back, in the final package, that will allow the continued progress in clean coal technologies while, at the same time, achieving a highly desirable environmental impact in terms of improving air quality in these United States.

Mr. LENT. Mr. Chairman, I yield 5 minutes to the gentleman from Michigan [Mr. SCHUETTE].

Mr. SCHUETTE. Mr. Chairman, I appreciate the gentleman from New York yielding this time to me.

The next 3 days this House will debate how we best clean the Nation's air, and during the course of that period of time we will also debate how we best provide jobs for working men and women in the auto industry of America.

Good jobs and clean air, the economy and the environment—those are the two competing goals or the twin objectives that this House and the other body should keep squarely in mind and firmly in mind as we debate the clean air bill.

These are not necessarily conflicting objectives. Sometimes they are competing, but they both can be accomplished at the same time if we use common sense and a balance to make sure that our environment is clean and healthy and there are jobs for people in Michigan and America.

□ 1750

For the chairman of the committee, the gentleman from Michigan [Mr. DINGELL], and the ranking member, the gentleman from New York [Mr. LENT], this has been a difficult job, a complicated task, with complex issues. We say to them, "A job well done."

My time today will be brief. As we get into the amendments, I will come back and share my views with Members of the House and participate in the debate. Let me review just a couple of titles now for a moment. First, we have title I, in terms of emissions in tier 1 standards. These standards will reduce emissions an additional 2 percentage points beyond fleet turnover. These are the same standards mandated in California. They are tough standards, tough provisions for clean air.

Tier 2, however, if found technologically feasible—and some question that—would cost the auto industry nearly $7 million per year, and what it would really mean is that it would cost jobs to people in the auto industry in Michigan and other parts of the Nation.

There is another feature called mandated production, which will be debated and discussed here in this Chamber. What is severely wrong with this is that it shows us that this is not how the market works. If we mandate production and mandate certain items, it does not guarantee that the product will be sold, and that will cost people jobs in Michigan.

On the CFC phaseout, the real concern here is whether or not it is technologically feasible, and again we will have considerable debate on that here in this Chamber.

This is a tough bill. Is it a perfect bill? No, but it is an effort to meet those twin competing objectives of clean air and good jobs, the economy and the environment. As we go through this debate, I would encourage my colleagues to try to meet these competing goals. We can achieve both, and in so doing we would better the environment and make sure that the people have jobs and maintain a better quality of life for themselves and their families.

Mr. DINGELL. Mr. Chairman, I yield 6 minutes to the gentlewoman from Ohio [Ms. OAKAR].

Ms. OAKAR. Mr. Chairman, this week, the House will meet to discuss the Clean Air Amendments of 1990. It is important to recognize the efforts of Chairman DINGELL, ranking minority member, Congressman LENT, Congressman WAXMAN, Congressman SHARP, Congressman MADIGAN and all of the other critical leaders of the Energy and Commerce Committee to bring this bill to the floor of the House for debate. I applaud the work and the end product of this important group.

H.R. 3030 is one of the most important measures regarding environmental, economic development, industrial regulation and international competitiveness issues. Consequently, we must act carefully in order to ensure environmental quality, national energy security and continued economic stability.

One of the difficulties I foresee in the bill regards energy security. Over the last year, the House Banking Subcommittee on economic stabilization, which I chair, has investigated our continuing problem with securing sufficient energy supplies. In particular, the subcommittee was informed that electric energy for the eastern seaboard is 2 percent less than needed to meet current demand, with the balance being "imported" from States not located on the east coast. This problem will be exacerbated by the current bill since it is projected that 12,600 megawatts of electric generating will be lost. As a result, blackouts will certainly increase.

With these facts in mind, I intend to introduce an amendment to H.R. 3030 which I call the cleaner air amendment. It is designed to guarantee long-run environmental improvement, allow our Nation to remain industrially competitive, and to ensure the survival of an important trade commodity of the future; namely, clean coal technology.

The core of my amendment aims to allow utilities that sign a binding letter of intent with the Department of Energy to acquire clean coal technologies—once approved by the regulatory authorities of their States—to operate in the same manner as small systems under title 5 of the bill. In particular, any overage in tonnage of emissions which are tabulated in a special account for that company, would be deducted from future allowances. In addition, as an incentive for rapid compliance, a 50-percent additional emissions reduction, as interest, will be required. In other words, if a utility decides to wait 4 years for the advent of clean coal and therefore emit at a rate greater than currently allowed by the bill, that utility would have 4 years to reduce its emissions below the individual utility cap by the amount it exceeded its limit, plus an additional 50 percent as interest.

For example, if 100 tons of overtonnage were accumulated over a 4-year period to allow installation of clean coal technology, the utility company would have 150 tons deducted from its allowances over the next 4 years, or the monetary equivalent—about $1,500 per ton. This is a strong incentive for rapid compliance without the risk of losing industrial competitiveness, energy security and economic stability. In addition, over the course of the next 20 years, my amendment will result in a total reduction of acid rain emissions below the amount allowed in the current language of the bill.

The benefits of this approach are many. First, it gives clean coal a chance to provide itself as a viable, environmentally responsible source of fuel. Since clean coal technology demonstration projects are only now being built, they have not had an opportunity to operate and verify their ability to affordably produce clean coal. Only a few more years are needed to allow this valuable technology to come on line.

Second, in order to ensure the success of clean coal technologies, we must work to create the market that will purchase future clean coal stockpiles. My amendment will allow the current coal-using markets to continue—under pressure of the 150-percent payback provisions of my amendment—to operate using coal as a fuel source until clean coal comes to market.

Third, my amendment recognizes an important environmental reality. China, Eastern European nations, and other countries with developing economies will continue to burn locally available coal regardless of our actions. This continued and increased use of unclean coal will greatly con-

tribute not only to the international problem of acid rain, but also to the emission of carbon dioxide—the primary greenhouse gas. Clean coal technologies, a critical source of future export income, will help to greatly alleviate this critical international environmental problem.

In particular, clean coal technologies have already proven in the laboratory to remove up to 99 percent of sulfur dioxide, similar amounts of nitrous oxide—scrubbers do not affect nitrous oxide emissions—and, more important to the problem of global warming, carbon dioxide would be reduced. This drastic reduction of carbon dioxide is accomplished because the combustion efficiencies of clean coal are up to 60 percent higher than conventional powerplants currently produce. In other words, it will take substantially less coal to produce a given amount of heat energy, thereby greatly reducing the emission of carbon dioxide. This is extremely important for countries, like China and the Eastern European nations, which are using any energy source they can find to develop their economies, which is almost always locally available coal. In addition, there is no reason to believe developing nations will change their development plans just because the United States has passed a bill which does not allow the development of clean coal technologies. Obviously, we cannot help developing nations develop in an environmentally responsible manner if we do not allow clean coal technologies to materialize.

Therefore, my amendment is a long-term environmental quality amendment as well as an energy security and economic stability amendment. Of all the environmental problems, global warming is by far the most serious. Passing my amendment is a sound long-term environmental action. Over the next 50 years, clean coal technologies are projected to save over $400 billion compared to the provisions of the present bill.

In addition, my amendment provides for the creation of a substantial fund that will finance the cleanup of 162 northeastern lakes which have been damaged by acid rain emissions. This $5 million fund is expected by the group, Living Lakes, Inc., to be more than sufficient to neutralize the acid in the damaged lakes. This will allow us time to simultaneously adjust to clean coal technologies and work to clean damaged lakes.

Mr. Chairman, I urge my colleagues to support my amendment for all the reasons I have outlined. Again, my bill will force a utility cleanup greater than currently required in the bill; it promises to work to decrease the emission of carbon dioxide, the primary greenhouse gas; to allow the development of domestic and international markets for clean coal technologies; and to neutralize the acid deposition in 162 acidified lakes. My amendment is designed to help our Nation achieve greater environmental quality and ensure energy security as well as economic stability.

I urge my colleagues to support my amendment.

□ 1800

Mr. LENT. Mr. Chairman, I yield 6 minutes to the gentleman from Ohio [Mr. MILLER].

Mr. MILLER of Ohio. Mr. Chairman, no one realizes more than I our responsibility for preserving our precious environment for future generations. However, history, and most recently our eastern neighbors have shown us that if we are to ensure the preservation of our environment we must retain a strong economy and free enterprise system.

As we debate this bill it is important that we remember the tried and true principles that have allowed the United States to improve air quality. These principles are: preservation of a free society where innovations can thrive, a firm and sound adherence to the sciences, and flexibility allowing local jurisdictions to help make decisions on how best to achieve these air quality goals.

Clean air is a scientific subject and this is definitely a scientific bill. In 1980 we acted responsibly by authorizing a comprehensive 10-year research program to provide information to the Congress on acid rain deposition. The reason we did was so that we today could fashion an effective rational bill. The National Precipitation Assessment Program, commonly referred to as the NAPAP study will complete its final results in just a few short months. The study will be comprehensive. We spent half a billion of the American taxpayer's hard earned dollars on this study. Don't we owe it to them to first have and evaluate the results of this 10-year scientific study? Enacting emotionally driven legislation to address a problem the precise cure for which is not yet known can only lead to more problems than benefits.

I think it is important to point out that the current Clean Air Act is working. Although electricity sales during the last 10 years have increased and our use of coal has increased almost 50 percent, sulfur dioxide emission are down. NAPAP concludes after 10 years of study that only 5 percent of the lakes in the northeast are currently acidic and that a number of these acidic lakes in the northeast have been that way since pre-industrial time. NAPAP further concluded that after extensive survey there was no evidence of widespread forest decline in North America related to acidic deposition. Yes, acidic deposition appears to intensify the effects of natural stresses upon red spruce at high elevations but is this grounds for enacting legislation which will cost thousands of jobs.

Not only will this bill in its present form cost thousands of jobs, loss of Federal, State and county revenues which currently go toward schools and parks, the policy of this bill holds serious consequences for our national energy supply. The Subcommittee on Economic Stabilization held a hearing earlier this year to look at the energy security and economic stability aspects of the Clean Air Act amendments. The conclusions of this hearing according to my colleague from Ohio, Congresswoman OAKAR, chairwoman of that subcommittee, is that this "pending legislation would severely impair the Nation's energy security. Experts predict that the safety margin for electricity generation would fall 3.6 percent below minimum standards by 1998 for the entire Eastern United States." In addition the pending amendments will act to defer, rather than accelerate, the introduction of evolving clean coal technologies, as utilities will be forced to concentrate their attention on short-term compliance with the 1995 deadline for removal of 50 percent of existing sulfur dioxide levels. They will be forced to use the existing available chemical scrubber technologies, because leadtime to installation is 5 to 10 years. After investing millions of dollars on scrubbers, utilities will be short of funds to purchase the fully integrated clean coal technology of the future. I feel this would be a grave mistake—clean coal technology will not only allow us to continue using our coal resources and save thousands of miners jobs in high sulfur mine areas, it would result in cleaner air, less waste and the development of a technology which can be used world wide to clean up our planet's pollution problem.

In looking at this bill we must seek to establish a realistic goal, one which balances our environmental objectives with our energy security needs and economic well-being.

Mr. DINGELL. Mr. Chairman, I yield 5 minutes to the gentleman from Tennessee [Mr. COOPER].

Mr. COOPER. Mr. Chairman, I appreciate the gentleman from Michigan [Mr. DINGELL], the chairman of my committee, for yielding this time to me, and I would first like to commend him for the outstanding job that he did in pulling together the conflicting interests on what may be the toughest piece of legislation that this body faces this year. It is extremely complex. The Clean Air Act is probably unrivaled in terms of the technicality of its provisions and the broad sweep of its provisions.

Mr. Chairman, for years now various Members and various groups have been debating the scope and the

impact of proposed legislation. This year many of us face the legislation with much foreboding and not really knowing whether these sharply divergent interests could be reconciled. However, when the legislation came to the committee, we first met it with a group of nine, a group of ad hoc committee members, formed to look at and study the technicalities of the measure so we could arrive at simple, common sense solutons to some of these problems. From then the legislation moved on to the subcommittee level, and then to the full committee level, and under the leadership of the gentleman from Michigan [Mr. DINGELL] we were able to achieve a remarkable consensus.

Mr. Chairman, the final vote on the legislation, when it was reported out of the committee, was a vote of 42 to 1. I do not think any commentator, I do not think any critic or pundit, could have anticipated a unanimity of that degree on such an important and divisive issue. I think it is a genuine testament to the leadership of the gentleman from Michigan [Mr. DINGELL].

That is not to say, Mr. Chairman, that the bill is perfect in all ways, and I am sure there will be a number of amendments proposed here on the floor to, hopefully, improve the legislation.

I have noted myself what I think might be one small flaw in the legislation. I focused particularly on the utility section of the bill, particularly the acid rain section of the bill, and it seems to me that in that area, although we are requiring monitoring of sulfur dioxide and nitrogen oxide, we have omitted monitoring carbon dioxide.

The American public is well aware of that global warming looks as if it is a major, not only national, problem, but world problem. In order to address this problem we need to know what our carbon dioxide emissions are, and for that reason I am planning on teaming up with the gentleman from California [Mr. MOORHEAD], a colleague, to offer to the Committee on Rules for their consideration the so-called Cooper-Moorhead amendment so that we could monitor carbon dioxide emissions at each utility plant in the United States.

The purpose of this is threefold. First, in order to furnish better scientific evidence so that we will know exactly what the U.S. contributon to the problem is. Of course it is a worldwide problem. Our share of the problem is really very small.

Second, Mr. Chairman, we need to form a baseline so that we know what the utility effort is in cleaning up the problem so that we know when to give them credit for their reductions, and when we know they are not, perhaps moving as quickly as we would like.

Finally, we need to know in order to form a proper role in international negotiations so that we know what the U.S. contributions to the problem is so that we can accurately frame our response in international negotiations.

So, Mr. Chairman, I would urge my colleagues, particularly on the Committee on Rules, to look with favor on the Cooper-Moorheard amendment, and I wuold urge my colleagues in the House to study the problem carefully to see whether a moderate, fair approach like this to global warming is warranted at this time and to see whether a monitoring approach like this is appropriate.

□ 1810

My amendment would not force any reductions right now. It would simply require a monitor on each utility unit so that not only would we be monitoring sulphur dioxide and nitrogen oxide, we would also be monitoring the other major utility gas, carborn dioxide, the major global warming gas.

I thank the gentleman for yielding this time to me.

Mr. DINGELL. Mr. Chairman, at this time we have on this side no requests for time. We reserve the balance of our time, which is 15 minutes.

Mr. LENT. Mr. Chairman, I reserve the balance of my time.

The CHAIRMAN pro tempore (Mr. COLEMAN of Texas). The Chair recognizes the gentleman from California [Mr. ANDERSON] for 30 minutes.

Mr. ANDERSON. Mr. Chairman, I yield myself such time as I may consume. Mr. Chairman, on behalf of the Committee on Public Works and Transportation, I want to congratulate my colleagues on the Committee on Energy and Commerce for their efforts in bringing H.R. 3030 to the House floor. We know you have worked for many years on this legislation and you deserve praise for this bill.

I especially want to commend the committee chairman, the gentleman from Michigan [Mr. DINGELL] and my colleague, the gentleman from California [Mr. WAXMAN], the subcommittee chairman, as well as the gentleman from New York [Mr. LENT] and the gentleman from Illinois [Mr. MADIGAN].

As a Californian, I am acutely aware of the importance of this clean air legislation. In the last two decades, since the passage of the first Clean Air Act, we have made strides in cleaning up our air. The Clean Air Act has, in many cases, prevented continued deterioration of the atmosphere and, in some cases, resulted in improvements. That is especially true in the area of smog resulting from auto pollutants.

It has also become evident during the last 20 years that more must be done to control air pollution. When it comes to the air we breathe, we can no longer afford the status quo. Whether it is the lingering pollution over the California basins, the destruction of the scenic vistas at the Grand Canyon or the acid rain of the Northeast, it is clear that a national effort is needed to develop effective and innovative means of winning the fight against air pollution.

At the same time that we face these growing environmental problems, the Nation is also threatened with an imminent transportation crisis. We have a deteriorating and inadequate infrastructure that also needs immediate attention. If we neglect our infrastructure, this Nation will forfeit its competitive position in the world.

The United States ranks 55th in the world in capital investment. Japan spends five times more than we do in infrastructure and West Germany's annual productivity rate is three times ours.

Infrastructure is not just potholes; it is productivity!

Infrastructure is not only concrete; it is competitiveness!

Our system today is one in peril: 60 percent of our highways and 41 percent of our bridges are in need of work; by the year 2000, traffic delays caused by inadequate roads will cost us $50 billion in lost wages and wasted gasoline.

This is an alarming situation and this Nation must maintain the tools for a major rebuilding effort. On the Committee on Public Works and Transportation, we believe that H.R. 3030 as reported by the Committe on Energy and Commerce would, inadvertently, prevent us from maintaining and rebuilding our infrastructure.

We have held two hearings on clean air issues. We have worked for several weeks to develop amendments that would correct these problems while preserving the strong environmental safeguards in H.R. 3030. Given a sequential referral for a limited time, we have developed amendments that we believe will correct the problems in H.R. 3030. The amendments have been developed after discussions with the leaders of the Energy and Commerce Committee and I am happy to say we have agreed on the changes. Subject to approval by the Rules Committee, they will be offered for floor consideration when the bill is open to amendment.

I believe these amendments represent modest changes to H.R. 3030 which would enable us to move forward with the rebuilding of America while providing ample protection for the environment. I fear that failure to adopt these amendments would sacrifice our economic productivity while at the same time doing little for the environment because of continued traffic congestion.

The provisions we are most concerned with are, first, how and when will a state transportation plan conform with the requirements contained in a state air quality implementation plan, known as a SIP, and second, where and when highway sanctions may be imposed for failure to meet certain requirements called for in H.R. 3030.

The first area, the relationship of the transportation plan to the SIP is known as conformity. H.R. 3030 as reported by the committee on Energy and Commerce would shift the meaning of conformity from one where Federal actions must conform to an approved plan to one where Federal actions must conform to a plan's purpose, possibly a project by project review.

In this area of conformity, which is so important to air quality programs, we should ensure that State and regional plans are reviewed to see if the plan as a whole conforms to the SIP.

It is crucial that the Department of Transportation be allowed to use its long-standing expertise on these matters. The Public Works and Transportation Committee amendment will invest a measure of decision making authority in EPA, but nothing can be issued without concurrence by the Department of Transportation.

On the issue of sanctions, the agreement provides that after 18 months, the sanction cannot be statewide if a political subdivision of a State is principally responsible for the noncompliance. In an additional 6 months, EPA may extend sanctions statewide. This gives a State, after the initial 18 months, 6 additional months to remedy the failure of a region to come into compliance before there is any threat of a statewide sanction.

This bill will have a major impact on the kind of America we have in the 21st century. I believe every Member of this House wants a clean and healthy environment. At the same time, we also want a strong economy that will lead to productivity gains and economic expansion. I believe these goals are not conflicting.

The amendment that has been agreed to by the Committee on Public Works and Transportation and the Committee on Energy and Commerce will provide an opportunity to move in that direction. I hope my colleagues will support the amendment when it is offered on the floor.

The CHAIRMAN pro tempore. The gentleman from Pennsylvania [Mr. SHUSTER] is recognized for 30 minutes.

Mr. SHUSTER. Mr. Chairman, I yield myself such time as I may consume.

Mr. Chairman, as a young boy growing up in the steel valley of western Pennsylvania, I know what it was to smell air pollution. In fact, on many days you could not see from the valley to the top of the hill until noon as a result of the tremendous air pollution caused from the steel mills and soft coal.

I had forgotten that not only could we see and smell the air pollution, we could even taste it. We could taste the soft coal. I had forgotten all about that until this past Easter when with another committee we traveled to Poland and Czechoslovakia, and there I was reminded and once again learned just what the taste of air pollution is, the taste of soft coal in your throat and in your nostrils. I was reminded that what was happening in Poland and Czechoslovakia was the result of 40 years of environmental pollution, 40 years of degradation, 40 years of not caring about the environment. It seemed to me that for those in America who care about the environment, we certainly are on the right track when we talk about clean air and the importance of providing standards so that we can assure the tremendous progress which already has taken place in our country will continue in the years ahead, and yet as we focus and emphasize the importance of clean air, it is also equally important that we focus on the balance that must go with such decisions, the balance that recognizes, yes, there is a cost attached to clean air, the recognition that jobs can be lost, the recognition that this particular clean air bill before us could indeed cost our country over $50 billion—yes, billion, not million dollars a year, that there could be thousands of jobs lost. Indeed, it could help precipitate a depression.

So while we must support clean air, we must likewise be equally concerned that there be a balance, a balance that recognizes not only the importance of clean air, but the importance of providing jobs for our people and creating a continuing growing economy.

□ 1820

I regret that in some of this legislation I believe there is not balance. In fact, particularly in the transportation area, one of the deep concerns we have had is that it gives all the weight to environmental decisions and very little weight to the importance of transportation decisions and yet, as a result of tremendous efforts particularly on the part of the distinguished chairman of our full committee, the gentleman from California [Mr. ANDERSON], and the distinguished chairman of our subcommittee, the gentleman from California [Mr. MINETA], they have worked out amendments which I understand are reasonable and can be accepted, amendments which provide for the very balance which is so necessary in the transportation area of this legislation, amendments that provide that transportation policy will not be decided exclusively over in the Environmental Protection Agency but will be decided in concert with the U.S. Department of Transportation where these very decisions should properly be made.

I would urge my colleagues, when we consider the transportation amendments tomorrow, that they look favorably upon the amendments which are going to be offered by the chairman, the gentleman from California [Mr. ANDERSON], because these amendments bring very much needed and vital balance to our legislation, the kind of balance that is so necessary for us to move ahead with the vital transportation needs of our country while at the same time recognizing the importance of clean air.

Mr. Chairman, finally, I would call our attention to the importance of dealing with the issue of protecting and preserving the money that is flowing into our highway and transit trust funds. As a result now of the gasohol exemption on gasoline taxes, we are losing about $500 million a year which should be flowing into the highway trust fund.

As a result of the clean air legislation, if it passes, and as a result of the continued exemption for both ethanol and, indeed, expanding it to methanol, the American people will be losing about $1 billion a year which otherwise should be flowing into the highway trust fund to preserve and improve America's transportation system.

When, indeed, we said years ago that we should stimulate the development of gasohol, ethanol, and one of the ways to do it was to provide the 6-cent-per-gallon gas exemption, it was done on the basis of encouraging a new technology, a new capability, but if now we are going to mandate that this particular technology, ethanol, methanol, must be used, then there is no need. In fact, that eliminates the justification for providing any exemption from the tax, and so just as gasoline is taxed, the people who drive on our highways pay their gasoline tax, simply because they happen to pull into a service station and have methanol or ethanol put in their car rather than simple gasoline, there is no reason for exempting them from the gasoline tax. So this is an issue of vital importance, and if we care about America's transportation needs, it is my understanding that the Committee on Ways and Means is willing to sit down with those of us on the Committee on Public Works and Transportation to come to grips with this issue. I focus on it because it is absolutely vital if we are going to come to grips with the important transportation needs of our country.

Mr. Chairman, for those various reasons, I urge my colleagues to support the transportation recognition in this bill that, indeed, it is the Department

of Transportation along with the Environmental Protection Agency which should be involved in this decisionmaking process.

To each of my colleagues, I say in closing, that if they care about improving highway projects in their districts, if they care about seeing to it that the money that their constituents put into the highway trust fund gets spent for needed transportation programs, then I urge them to support the transportation amendments which will be offered by our distinguished chairman to this bill.

Mr. Chairman, I urge the Members to recognize that as we approach the importance of clean air, we do it recognizing that there must be a balance, and that transportation and transportation needs in America must stand alongside clean air so that we provide the proper balance to accomplish both of these important objectives.

Mr. ANDERSON. Mr. Chairman, I yield such time as he may consume to the gentleman from California [Mr. MINETA], the chairman of the Subcommittee on Surface Transportation.

Mr. MINETA. Mr. Chairman, the Clean Air Act Amendments of 1990 have traversed a long and rocky road through both Houses of the Congress. Finally, we find ourselves in a position to enact legislation that will improve our health and environment.

I commend the leadership of the House on both sides of the aisle for their efforts to bring the bill, H.R. 3030, Clean Air Act Amendments of 1990, to the floor for consideration. I especially wish to commend the distinguished gentleman from Michigan [Mr. DINGELL] and my good friend and colleague, the gentleman from California [Mr. WAXMAN], as well as the ranking Members from New York and Illinois.

H.R. 3030 is sound and comprehensive legislation that will dramatically strengthen the Nation's clean air laws.

More than 100 million Americans live in areas that fail to meet national air quality standards. Between 5 and 10 million Americans suffer from the adverse effects of dirty air.

Through the enactment of clean air legislation, relief will be shared by everyone and the Nation as a whole will benefit.

Mr. Chairman, I believe that H.R. 3030 goes a long way toward improving air quality. Some people may say that the bill does not go far enough. I would agree, but H.R. 3030 takes a long-overdue step in the right direction.

I believe the Congress has to take a balanced approach to addressing the Nation's environmental problems while addressing its transportation needs.

Clean air is a national resource and we must work to keep it clean.

Over the past few weeks, the Committee on Public Works and Transportation under the capable leadership of Chairman ANDERSON and our ranking Republican Member, Congressman HAMMERSCHMIDT of Arkansas, and my good friend and colleague with whom I have the honor to serve, Congressman SHUSTER, the ranking Republican on the Surface Transportation Subcommittee, has worked in good faith with the Committee on Energy and Commerce to address concerns that directly affect the Nation's surface transportation programs. The two committees have today reached an agreement on the proposed amendments.

I am well aware that mobile sources produce half our urban ozone pollution, half our toxic emissions nationwide, and 90 percent of carbon monoxide pollution.

At the Federal level, the responsibility for widespread failure to reduce mobile source pollutants since 1977 rests with the Environmental Protection Agency [EPA] and the Department of Transportation [DOT]. For the future, both Departments must work together to reduce emissions. For that reason, the Energy and Commerce and Public Works and Transportation Committees have proposed to amend the Clean Air Act Amendments of 1990 to provide for an effort by both EPA and DOT to assure conformity of transportation plans and projects.

As the House considers the bill, H.R. 3030, we must keep foremost in our minds that overall the Clean Air Act Amendments of 1990, as reported by the Energy and Commerce Committee, is a very good bill. I strongly support enactment of H.R. 3030.

The amendments to the legislation agreed to by both committees are only intended to improve the implementation of the Clean Air Act without neglecting the need to move people and goods.

The committees' amendments address two areas: sanctions and conformity requirements.

Under the sanctions provisions, the EPA Administrator is required to establish criteria for exercising his or her authority to impose sanctions on political subdivisions that have adequate authority to correct air quality deficiencies.

On Wednesday, the committees will amend the conformity requirements to permit EPA and DOT to work together to determine which transportation projects conform to the State implementation plan.

These are good amendments.

When we reauthorize the surface transportation programs next year, it is my intent to include strong consideration of environmental improvement goals—in addition to improving our economic development, international competitiveness, public safety—and most obviously—our transportation system.

Over the last two decades, the Congress has struggled to develop solutions to improve air quality. Success has eluded us.

Now, we have an opportunity to enact legislation to clean up dirty air.

It is clear Americans are willing to tighten their belts and make sacrifices to achieve cleaner air for themselves and their children.

I would urge my colleagues to keep foremost in their minds that the enactment of clean air legislation is what Americans want and should have.

My Santa Clara County district is part of the San Francisco air basin—a nonattainment area. And my constituents are not willing to exchange their health for economic gains alone.

Americans are looking to us for leadership and we must provide that leadership by enacting strong and workable clean air legislation. Further, we can ensure that H.R. 3030 is workable by making modest, but important adjustments to H.R. 3030 to strengthen the bill and facilitate its implementation.

Mr. Chairman, I urge the adoption of amendments offered jointly by the Committee on Public Works and Transportation and the Committee on Energy and Commerce.

□ 1830

Mr. SHUSTER. Mr. Chairman, I yield myself such time as I may consume.

Mr. Chairman, I would ask the distinguished chairman of our full committee, the gentleman from California [Mr. ANDERSON], a question with regard to the safety exemption from existing law.

It is my understanding that it is continued and that the Department of Transportation has the statutory authority to determine what is a safety project. Further, that the Department of Transportation has used this exemption to allow much-needed safety projects to go forward in States which are under sanctions.

Mr. Chairman, it is my understanding that the Department of Transportation will continue to be able to continue approving these types of projects under our committee amendment, and indeed the definition of "safety project" is to be interpreted in its broadest context.

Mr. Chairman, I would ask if that is the understanding of the gentleman from California [Mr. ANDERSON] as well?

Mr. ANDERSON. Mr. Chairman, will the gentleman yield?

Mr. SHUSTER. I yield to the gentleman from California.

Mr. ANDERSON. Mr. Chairman, yes, in this agreement that is agreed to both the Committee on Public Works

and the Committee on Energy and Commerce, that determination will reside with the head of the Department of Transportation.

Mr. HAMMERSCHMIDT. Mr. Chairman. I rise in support of the goals of H.R. 3030 and to convey my belief that our Nation's transportation programs must be part of the solution to the environmental problems that threaten our quality of life. At the same time we must be sure that in advancing clean air goals we do not unnecessarily impede the improvement of our transportation systems.

I am extremely pleased to support a very positive amendment to H.R. 3030 that will clarify how specific provisions of the Clean Air Act amendments will be applied to Federal transportation programs. Where H.R. 3030 is unclear, this amendment provides specific guidance to the Environmental Protection Agency and the Department of Transportation on how transportation programs will be judged in measuring up to clean air objectives.

The Surface Transportation Subcommittee has held six hearings in the last 2 months to learn where our transportation programs should be headed. We heard that high-quality, well-maintained roads are critical to keeping America a strong competitor in the global marketplace. We heard that traffic congestion is, day in and day out, undermining the productivity of our commercial fleets and wasting countless hours as the American work force sits in gridlock. Transportation officials told us that bureaucratic labyrinths and legal entanglements tied to Federal funds are holding up critical transportation projects aimed at getting us out of our congestion nightmare.

Just as important, we heard that Americans want a transportation system that can coexist with a healthy, clean environment. I want to particularly note that Secretary of Transportation Sam Skinner personally pledged his support before the Public Works and Transportation Committee to see that transportation policy will foster the protection of our environment and our quality of life.

We will be called upon in next year's surface transportation bill to solve these basic transportation problems, and to do so in a manner that is compatible with clean air goals. My concern is that certain provisions of the bill reported by the Energy and Commerce Committee, if enacted into law, would pose serious problems for our transportation system.

On the conformity issue, the amendment first of all sets out in detail the methods by which transportation plans, programs, and projects are determined to conform with clean air plans. In particular, the amendment ensures that conformity will be determined for a transportation plan as a whole, not for individual projects included in a plan. At the same time, the amendment guarantees that projects that were not in a plan, or whose design or scope have changed, will be closely analyzed to prevent evasion of clean air goals. This amendment is crucial for ensuring that clean air goals are advanced at the planning stage of transportation projects, and also for ensuring that a program of transportation projects can be advanced, with some projects that enhance air quality, some that are neutral, and some that do not enhance air quality.

This is a critical clarification of H.R. 3030 strongly supported by regional councils nationwide. In nonattainment areas, regional councils are the designated agency to perform coordinated, continuing metropolitan transportation planning in urbanized areas. They are responsible for assuring that all Federal-aid transportation programs are in conformity with State implementation plans to meet national air quality goals. The regional councils believe that the conformity language of H.R. 3030 reported by the Energy and Commerce Committee will seriously impair the ability of metropolitan areas to meet current and future transportation needs. They believe it will impose costly and technically impractical requirements on planning agencies, and could ultimately jeopardize the economic health of many of our Nation's metropolitan areas.

The second amendment relating to conformity provides that the Administrator of EPA will jointly set the guidelines for conformity in concurrence with the Secretary of Transportation. This will bring the expertise of both EPA and DOT to the table as decisions are made that affect both clean air and transportation programs.

Another basic change is proposed in the amendment regarding the authority to cut off highway funds as a sanction for Clean Air Act violations. The amendment ensures that sanctions, if necessary, are aimed at the level of Government responsible for taking remedial action. Thus, highway sanctions cannot be cut off in the first instance for an entire State for a violation in one part of the State, if a local government has primary responsibility for correcting the violation.

The amendment that will be offered will promote the clean air goals of H.R. 3030, while ensuring that we can move forward with a strong national transportation policy. I strongly urge my colleagues in considering this issue to reflect upon the transportation challenges facing them in their own districts. I hope you will support the very constructive changes in this amendment.

One additional aspect of the Clean Air Act amendment causes me concern. Mandates for increased gasohol usage in nonattainment areas will result in substantial additional losses of revenue to the highway trust fund. Gasohol currently has a 6-cent-per-gallon exemption from the Federal excise tax on gasoline. This exemption already drains the trust fund of $500 million per year. Once mandates are in place for use of oxygenated fuels, we need to address the lost revenue issue. I know that the Public Works and Transportation Committee is very concerned about this matter at a time when critical transportation projects are unfunded. I hope the Ways and Means Committee will share this concern and that our committees can cooperatively address this important matter in future tax legislation.

Mr. SHUSTER. Mr. Chairman, I have no further requests for time, and I yield back the balance of my time.

Mr. ANDERSON. Mr. Chairman, I have no further requests for time, and I yield back the balance of my time.

The CHAIRMAN pro tempore (Mr. COLEMAN of Texas). The Chair has been advised that the Committee on Ways and Means will not consume the 60 minutes of general debate time that has been allocated to it. Therefore, the time is considered to have been yielded back.

The Chair recognizes the gentleman from Michigan [Mr. DINGELL].

Mr. DINGELL. Mr. Chairman, I yield myself such time as I may consume.

Mr. Chairman, my remarks at this point will be very, very brief. I would like to commend my friends and colleagues on the Committee on Public Works for the very gracious and constructive attitude which they have demonstrated on this very difficult piece of legislation. The chairman of the committee, the gentleman from California [Mr. ANDERSON]; the subcommittee chairman, the gentleman from California [Mr. MINETA]; and the distinghished gentleman from Pennsylvania [Mr. SHUSTER] have certainly merited the thanks of the House for the way in which they have conducted the business here. I believe their suggestions are constructive and we will look with a great deal of kindness upon them. I believe that resolution of the difficulties that appeared to lie before us has been accomplished. I want to commend the gentlemen just mentioned, including my good friend the gentleman from Pennsylvania [Mr. SHUSTER], for their participation in this debate and their assistance to us in addressing the problems we have with regard to this Clean Air Act.

Mr. Chairman, I yield back the balance of my time.

Mr. LENT. Mr. Chairman, I yield myself such time as I may consume.

Mr. Chairman, I thank the gentleman from Michigan [Mr. DINGELL] for his remarks. I will not add much to it, except to remind the House that H.R. 3030 balances the safety of our environment with the health of our economy. We as a nation have enjoyed seven consecutive years now of economic expansion, which is the longest period of sustained growth in the history of our Nation. This expansion has resulted in more jobs and better wages for millions and millions of Americans. We cannot and must not jeopardize our economy by overloading on Wednesday next a good environmentally solid bill with some perhaps unjudicious and unwise amendments which might invite a Presidential veto.

So with that small footnote to add to the words of the gentleman from Michigan [Mr. DINGELL], I yield back the balance of my time.

Mr. ROSTENKOWSKI. Mr Chairman, I strongly support the action of the Committee on Ways and Means to delete from H.R. 3030 certain fees which are, in reality, taxes or tariffs.

Several of the provisions of H.R. 3030, as reported by the Committee on Energy and Commerce, either propose to give the Envi-

ronmental Protection Agency [EPA] the direct authority to impose fees to serve as economic incentives to eliminate pollution or the authority to impose fees if those levied by the States are considered inadequate. In substance, these are taxes, not user fees. The fact that revenues from these fees were proposed to be used to pay certain EPA costs does not turn them into user fees after the fact, just as the general tax revenues that now pay EPA's costs are not turned into fees as a result of such use.

In one case, the bill attempts to characterize as a penalty what is, in reality, a tax. It proposed to impose a penalty on certain large companies just because they happen to be located in areas which fail to comply with certain pollution control limits. The companies would be required to pay the penalty, even if they actually emit less pollution than their permits allowed. This is clearly a tax, not a penalty.

Finally, the bill also would permit the States to impose fees on the importation of products which contribute to the formation of what is commonly known as smog. This provision would allow the States to impose tariffs—at a level to be determined solely by the States—on products imported into the United States. This provision could, conceivably, result in States imposing tariffs on imported foreign cars. This measure raises serious trade policy issues and likely would violate U.S. international trade obligations under the General Agreement on Tariffs and Trade. In addition, it raised serious constitutional questions.

The Committee on Ways and Means amendment struck these provisions from the reported bill, because they are taxes or tariffs, not fees designed solely to compensate the Federal Government for the provision of services to the persons required to pay such fees or fees properly characterized as penalties.

Mr. Chairman, the members of the Committee on Ways and Means recognize that the administration of clean air legislation will be costly. We have no quarrel with the need to fund EPA's enforcement efforts adequately. But the need to raise revenue for these purposes cannot justify raising taxes or imposing tariffs in the guise of fees. It especially cannot justify the unconstitutional delegation of the power to tax by the Congress to the executive branch, as would be the case if some of these fees were adopted.

Mr. Chairman, the Committee on Ways and Means has been careful to limit its actions to those which are clearly within its jurisdiction. We have not attempted to modify those fees which are clearly user fees, even though members of the Committee may have questioned their merit.

Before I conclude my remarks, I wish to express my deep concern about the precedent set by another provision of the bill not addressed by the action of the Committee on Ways and Means. One of the sanctions provided by the bill is the denial of certain awards from the highway trust fund. I am disturbed that this provision attempts to usurp control of trust funds properly within the jurisdiction of other committees.

In conclusion, Mr. Chairman, I wish to emphasize that the concerns of the Committee on Ways and Means are not merely issues of committee jurisdiction. These same types of fees are frequently contained in legislation adopted by the Senate. We must take very seriously our collective responsibility to protect the constitutional prerogative of the House to initiate revenue measures. To do so, we must not simply call a measure a user fee if, in reality, it is a tax or a tariff. Our failure to face up to that fact will only serve to impair the House's constitutional prerogative to originate revenue legislation.

Mr. KANJORSKI. Mr. Chairman, I rise today in strong support of H.R. 3030, the Clean Air Amendments of 1990, as well as a number of the amendments that will be offered in the next few days to strengthen this important legislation.

During a recent visit to Eastern Europe, I saw numerous opportunities for America to help these countries in their struggle to reform their economic and political systems. Perhaps more importantly, however, I found a significant lesson that Eastern Europe has to offer the United States.

The lesson is simply: We must pay heed to the environmental impact of our actions if we are going to survive.

Not until you visit the eastern bloc can a person truly know the potential damage of unregulated air and water pollution. In the cities and the surrounding areas, even on the clearest of days, the smog has cut visibility down to less than a mile.

Acid rain has decimated not only buildings and statues that have been standing for hundreds of years, but also natural treasures such as the Black Forest.

The worst part about this situation is that there is not much hope for a near term solution to reverse the environmental damage. Cleaning the air and water in these countries will take millions—perhaps billions—of dollars and require the use of technology that they do not have.

The United States needs to continue to pursue the advanced technology and industry that has allowed this country to grow and prosper. This cannot be done, however, at the expense of the environment. A balance must be found.

Eastern Europe provides powerful testimony to the fact that strong regulations protecting the health of the air, water, soil, and people must be enacted and maintained if we are to continue our course of progress. It provides a frightening glimpse of what America could become if we do not act quickly and decisively. Thus I urge my colleagues to support this legislation.

Mr. FORD of Tennessee. Mr. Chairman, I stand before you today in support of the House Clean Air Bill, H.R. 3030. The committees with jurisdiction, my congressional colleagues, businesses, environmental activities, and citizens alike have worked hard to create new and comprehensive environmental legislation that would address the need to clean up our environment. This legislation is the result of the input of many and reflects the concerns of all.

Clean air legislation was first enacted in 1970 and again revised in 1977. Consequently, it has been 13 years since there has been any major revisions to clean air legislation. However, air pollution from more than 200 industrial plants continue to pose risks at least 1,000 times greater than the federally accepted limit. At the same time, 2.7 billion pounds of chemicals were released into the air from the routine operation of factories alone, and 9.7 billion pounds of chemicals into streams and other bodies of water. It is time we addressed these problems.

Mr. Chairman, I support H.R. 3030 for three reasons: acid rain, air toxics, and smog.

Acid rain has been found to aggravate human respiratory illnesses, causing numerous breathing problems. Acid rain also has been cited as causing corrosion of buildings, monuments and water pipes and releasing cancer- and disease-causing substances into the water. This chemically contaminated precipitation is a prime suspect of forest decline and is estimated to cause 50,000 premature deaths in this country.

Title I of H.R. 3030 would establish provisions to address the problems of acid rain. This title would call for a 10-million-ton reduction in the 1980 level of sulfur dioxide emissions, the major contributor of acid rain, by the year 2000.

Air toxics released into the air have been known to turn backyards red and dissolve tombstones. Imagine the impact these toxics have on our bodies. Strong levels of air toxics have been linked with high incidents of cancer. H.R. 3030 would regulate the release of air toxics and implant changes to decrease the overall levels of air toxics in our environment.

Finally, smog has continued to be more than an eyeache for this country's citizens. While, we as representatives and other informed individuals continue to preach about the hazards of air pollution, it is often that our words fall on deaf ears. In most instances, without being able to see a greenhouse effect or to see ozone depletion, the problem cannot be viewed as an important issue. Yet, smog is a very visible and significant problem.

The thick masses of dirty air hover above us, clouding our skies and creating dark hazes. Estimates indicate that $5 billion are lost annually due to lowered productivity of farmland and crop losses due to smog.

The clean air bill would divide the country into various categories based on the levels of pollution and failure of an area to achieve established standards and would institute stricter control measures for automotive vehicles, gasoline pumps and other contributors to smog.

H.R. 3030 is not just a clean air bill but it is a ticket for the future. It has been estimated that this bill will cost $21 billion a year.

Yes, changes to the clean air bill may be costly. But the price tag of pollution is much more expensive. Studies implemented by the American Lung Association indicate that the health costs of pollution range from $500 million to $15 billion per year. However, implementation of new Federal Public Health standards for fine particulate matter would result in $5.3 billion to $9.6 billion saved in health benefits.

Likewise, if Federal standards were maintained for sulfur dioxide exposure, $10 billion could be saved. Consequently, the results of these and other studies continue to confirm

that the overall net benefits in the savings of potential health costs far outweigh pollution control costs.

Since 1970 our Nation has made great progress in cleaning our air, but more needs to be done. The key to future improvements is proper planning. Let us plan now to implement a bill that can work for us all. I urge everyone to support H.R. 3030 and to create a comprehensive clean air plan.

Mr. DREIER of California. Mr. Chairman, I want to congratulate my colleagues on the Energy and Commerce Committee for bringing to the floor a workable package of amendments to strengthen the Clean Air Act. President Bush deserves special praise for the initial development of this comprehensive plan. I am convinced that, without the President's leadership, we would be facing another legislative stalemate, and another extension of a Clean Air Act that has proven to be ineffective in addressing the most serious air quality problems facing many of the Nation's urban areas.

I am an original cosponsor of H.R. 3030, and the changes made by the committee will only serve to strengthen its effectiveness. H.R. 3030 maintains the President's initiatives to provide for achievable attainment of air quality standards. It provides a cost-effective means to reduce sulfur dioxide emissions in an effort to address the problem of acid rain. It contains a workable system to control toxic air pollutants, and it promotes advanced fuels and technologies to reduce automobile emissions and industrial pollution.

H.R. 3030 is an ambitious attack on health-threatening pollution. It is necessary for addressing the severe pollution problems in areas like the Los Angeles Basin, which has the worst air pollution in the country. In 1989, there were 160 days when the basin's air quality exceeded the EPA standard, and there were 54 stage 1 alerts. Fifty-two percent of the basin's smog-producing ozone pollution comes from cars, buses, trucks, and motorcycles.

I am cognizant of the potential impact this legislation could have in terms of economic growth and industrial competitiveness. I am particularly concerned about the ability of small businesses to comply with the extensive permitting and enforcement provisions. After implementation, should some of the provisions in H.R. 3030 prove to be prohibitively costly without providing any net marginal environmental benefits, I will support congressional efforts to revisit those issues. But for now, we need a multifaceted attack against pollution, and H.R. 3030 provides a number of market-oriented tools to fight the battle for clean air.

Mr. Chairman, failure to strengthen the Clean Air Act this year will prolong uncertainty about our commitment to improve the Nation's air quality and protect public health. It is time that we end the 7-year stalemate that has tied up this important legislation. H.R. 3030 is a fair, yet aggressive pollution reduction program, and it has my full support.

Mr. ROGERS. Mr. Chairman, the measure reported out of the Energy and Commerce Committee is a comprehensive, complex, and tough bill. The House compromise is tougher than the administration's proposal, and in some key aspects, tougher than the legislation which passed the Senate.

I am acutely aware of the 10-year stalemate that has plagued previous attempts to reauthorize the Clean Air Act. Much credit of course must be given to the President for breaking that log jam, and much credit must be given to the able leader of the Energy and Commerce Committee, Mr. DINGELL, and the ranking Republican member from New York, Mr. LENT. Concessions have been worked out on a number of issues, including air toxics provisions, a tail pipe standard agreement, and new requirements for ozone nonattainment problems in the most heavily polluted cities. While the auto companies are not wildly enthusiastic, they have a can do attitude about these requirements, at least for the first phase of these requirements.

But, we live in a very complex industrialized society. For every requirement we enact there is an economic impact, there is a job impact, a small business impact, and those tabs must be paid. The Business Round Table recently published a comprehensive analysis of the costs of various clean air proposals. Their best cost estimates using models developed by several organizations range from $31 billion to $104 billion. Moreover, a Harvard University report on environmental regulation and U.S. economic growth finds that pollution abatement controls were a significant contributor to the growth slowdown of the 1970's. There is an economic price to be paid, and we must readily acknowledge that the price is high.

The Commerce Department reports that we currently spend $32 billion a year on environmental regulations. Consequently, we have seen significant improvements in the air quality across the country. For example, today's cars are 25 times cleaner than 20-year-old cars. The Environmental Protection Agency reports that since 1978 emission of ambient airborn lead declined 88 percent. From 1973 to 1988, despite an 85-percent increase in coal use nationwide, sulfur dioxide emissions have decreased 35 percent. Nitrogen oxides have declined 12 percent since peaking in 1978. In my home State of Kentucky, electric utilities have cut sulfur dioxide emissions in half from 1975 to 1985, while increasing the amount of coal burned by 17 percent. All these decreases are the result of the current clean air law.

But as we look for ways to continue these improvements, we may well jeopardize the only course that can guarantee a cleaner environment. The solution to our nation's pollution problems is innovation, better technology, and unleashing the power of the human mind in a free society. The results we seek cannot be achieved if we go after them with the heavy artillery of big government. History tells us that closed societies, where Government controls technology and innovation, have dismal success records at achieving clean air goals. I am concerned that we are forgetting the lessons of history. It is not surprising to me that the West Germans have had to waive the air pollutant standards on East German cars. That is a typical problem of command-control economies. We must not move in that direction. The first principle of any clean air bill should be maximizing flexibility for innovation.

Last, Mr. Chairman, but certainly not least, I want to focus on the acid rain title of the bill. Although this title has also been worked out in committee, I remain deeply concerned that title V is not a fuel-neutral bill. Because of the effects of the so-called cap in phase II, the acid rain provisions will severely restrain the use of coal for utilities in high growth States. Although the committee report acknowledges this problem, the agreement does not, in my opinion, address this issue.

Moreover, the economic impacts of the acid rain title on coal communities in Kentucky will be concentrated on Kentucky's small coal towns which are almost exclusively dependent on mining for their economic viability.

In my district, which is sometimes referred to as a low-sulfur coal area, only 20 percent of the coal can meet the stricter 1.2 pounds-per-milion BTU standard required in phase II. EPA has greatly underestimated the potential mining-related job loss in its cost estimates. According to estimates from the Clean Air Working Group [CAWG], the potential jobs at risk of being lost from clean air in my district could be as high as 1,400. One coal company in particular is now threatened with extinction because of the uniquely crafted features of the sulfur dioxide emission allowance system. Eight hundred jobs in Whitley and Knox counties are at risk. Ironically, this firm produces 2.5 million tons of some of the lowest sulfur coal in the State of Kentucky, and it generates $100 million of revenues into the Kentucky economy. That hits us very hard when parts of my district are already suffering with unemployment rates as high as 18 percent. Although I have discussed this problem with committee members at great length, the committee was unable to resolve the problem.

We also know that the acid rain title will mean higher utility rates for Kentucky's ratepayers. The latest estimates from the Kentucky Energy Cabinet reveal that Kentucky's consumers will pay anywhere from 12 to 18 percent more for their electricity, depending on how utilities comply.

Finally, Mr. Chairman, what about the science behind the acid rain issue? Let me close by discussing the National Acid Rain Precipitation Assessment Program [NAPAP] that was established in 1980. This report was planned as a comprehensive 10-year study. Over the decade, the cost of that program has risen to over one-half billion dollars. The NAPAP Program is the most broadly based analysis on the effects and causes of acid rain ever undertaken. The Commission has reviewed over 5,000 documents and studies, more than 300 authors explained their findings, and more than 100 peer reviewers examined the reports.

Although the final report will be out in September, a draft was presented to an international conference of scientists in February. According to the program administrator, there is little probability that any of the conclusions would be changed. Therefore, the report offers very conclusive and significant findings.

The findings under section 18 that deal with forests are, and I quote:

There is no evidence of a general or unusual decline of forest in the United States or Canada due to acidic deposition or any other stress factor. Moreover, there is no case of forest decline in which acidic deposition is known to be a predominate cause.

In turning to the issue of crop yields, the NAPAP report states and I quote:

Ambient sulfur dioxide concentrations by themselves are not responsible for regional scale crop yield reduction in the United States.

Mr. Chairman, these excerpts offer a revealing look at what the scientists are saying about acid rain. This is a $1 million problem with a $1 billion price tag. Unfortunately, the debate in Congress is not about science. The proposal to control emissions that form acid rain—now being debated on the House floor—could cost $5 to $10 billion a year; the benefits, in terms of reduced damage, are uncertain and, at best, quite small.

I have a summary of each section of the NAPAP report; and, I insert that summary in the RECORD:

SUMMARY

The following summary comments are keyed to the individual section numbers in the Detailed Comments section which follows:

1. SO_2 Emission Trends.—National SO_2 emissions decreased by approximately 25% from 1973-1983 and have remained relatively constant since that time. Without new controls, emissions may increase or decrease by as much as 20% between 1990 and 2010. Emissions are expected to decline from 2010 to about 2030 as pre-NSPS plants retire. New plant growth after 2010 could result in an increase in total emissions after 2030, when all pre-NSPS plants have been retired.

2. SO_2 Effects Categories.—Regional scale SO_2 effects are usually evaluated for surface waters, forests, crops, materials, human health and visibility (see items 3 through 8 below).

3. Surface Waters.—A percentage (0 to 6 percent of mid-Atlantic, northeastern and midwestern lakes and streams are acidic and a further percentage (0 to 18 percent additional) are highly sensitive to acidification (<50 μeg L acid neutralizing capacity [ANCI]). Florida is a special case. Biological impacts occur in some acidic and sensitive waters. In the Northeast, the time for biological recovery may be long, so that little near term benefit would be expected to result from rapid emission reduction. In the Mid-Appalachian Region, the time scale of acidification and/or recovery (chemical and biological) is an important unknown. It will be reported in the NAPAP 1990 Assessment. Preliminary findings suggest that in some mid-Atlantic subregions, significant acidification may occur within a few decades.

4. Forests.—Impacts from acidic cloudwater in combination with other stresses affect some high elevation spruce forests in the East. However, there is no evidence of widespread forest damage from acidic deposition. Long-term changes in the chemistry of some sensitive soils are expected, although it is uncertain whether this will affect forest health.

5. Crops.—SO_2 emissions do not reduce crop yields, except possibly on a local basis near very large sources. Crop plants are not sensitive to the wet deposition of acidic substances.

6. Visibility.—NAPAP has not conducted independent research on visibility effects or values. However, visibility benefits should be included in any assessment of SO_2 emissions reduction, and are being included in NAPAP's Integrated Assessment. Atmospheric sulfate particles derived from SO_2 emissions are a significant contributor to reduced visibility and emission reductions will lead to improved visibility.

7. Human Health.—NAPAP program has not conducted independent research on the "direct" effects associated with inhalation of SO_2 or its transformation products, which include acid sulfate aerosols. The health risks associated with acid aerosols are being evaluated by EPA for possible inclusion as a National Ambient Air Quality Standard. Reductions of SO_2 emissions would reduce risks associated with current loadings. NAPAP continues to evaluate the results of research conducted on the "indirect" health effects of acid deposition (e.g., related to mobilization of lead, mercury or other metals in acidic waters).

8. Materials.—Both wet and dry sulfur deposition accelerates the deterioration of carbonate stone, galvanized steel, paint, etc. Materials benefits would be greatest if deposition in urban areas is reduced, thus local sources need to be considered.

9. Nitrogen Oxide Emissions.—NO_2 emission control will be beneficial in several regions. This favors the use of technologies that remove NO_2 including low NO_2 burners and clean coal technology (CCT) compared to the current generation of scrubbers in cases where controls may be required at existing plants.

10. Impact in Canada of U.S. SO_2 Emissions.—U.S. emissions reductions intended to benefit effects categories, e.g., surface waters, health and visibility, in the Adirondack area and New England will also benefit geographical areas in northeastern Canada. There is no supportable evidence, however, for widespread impacts on Canadian forests.

11. Economic Valuation of Benefits.—No comprehensive benefit evaluation is available, nor likely in the next year. Control strategy evaluations must necessarily involve both economic and physical measures.

12. Control Strategy Implications.—Enhanced energy conservation is the lowest cost means of emission reductions. Coal substitution and coal washing (where not already practiced) are low cost options for near term (e.g., by 1995) emission reductions. Clean Coal Technology (CCT) has many benefits (including reduced global climate impacts) compared to current scrubber technology, but will need a post-2000 deadline (e.g., 2003-2005) for full implementation.

For its integrated Assessment, NAPAP is evaluating the timing, magnitude, location, and costs of various control options. The issues revolve around the use of currently available techniques such as, fuel switching, coal cleaning, LIMB, duct injection, and scrubbing versus the next generation of clean coal technologies. The Clean Coal Technology Program will be resolving technical and economic questions of emerging techniques so that their performance and penetration rate can be determined.

13. NAPAP Assessment Reports.—NAPAP's fully reviewed reports (to appear in late-1989 and 1990) and the NAPAP International Conference in February 1990 are intended to assure credibility for the technical information generated by the program for use by policymakers in the development of acid rain control legislation.

1. SO_2 Emission Trends—Past and Projected:

1.1 National SO_2 emission rates have declined by 25 percent (from 32 to 24 million tons per year) between 1973 and 1988. Much of this reduction occurred in Ohio River Valley and midwestern states. Most of the reduction had been achieved by 1983, and national SO_2 emission levels have been approximately constant during the past five years.

1.2 The fraction of SO_2 emissions from tall stack sources increased during the 1973-1988 period. As a result, the reduction in long-range transport has been less than the 25 percent reduction in emissions.

1.3 If no new control legislation is adopted, various projections of national SO_2 emissions during the next 20 years range between ± 20 percent or more, compared to current levels, depending upon assumptions about energy demand, fuel mix and new control technology penetration rate at existing power plants. Beyond 2010, there is general agreement that SO_2 emissions will decline, as a result of the retirement of older, higher emitting plants.

1.4 For this memorandum, a maximum emission reduction of 12 million tons per year (50 percent decrease) was considered, in order to comment on the expected benefits in the case of the largest reductions proposed in the current acid rain debates. Smaller total decreases (e.g., 6, 8 or 10 million tons per year) would result in smaller benefits; however, the relationship between emission reductions and benefits may not be linear. Two schedules for the 50 percent reduction case were considered:

2000 Target: 50 percent decline (from 24 to 12 million tons per year) by 2000, with constant emissions after 2000.

2005 Target: A 25 percent decline (24 to 18 million tons) by 2000, a further 25 percent decline (18 to 12 million tons) by 2005, with constant emissions after 2005.

2. Effects Categories for SO_2 Impacts:

2.1 The following effects categories are usually considered when evaluating the potential regional benefits of SO_2 emission reductions:

Surface Waters: Effects on lakes, streams, and coastal estuaries—both chemical and biological.

Forests: Effects on unmanaged and commercial forests.

Crops: Effects on agricultural crops.

Materials: Effects on exposed construction materials and cultural resources.

Health: Direct (inhalation) and indirect (other pathways) effects on human health.

Visibility: Effects on visual range through the atmosphere.

2.2 Important Note: Ozone (and other oxidants) and nitrogen oxides also can cause effects in the above categories, as noted in the following sections. Such ozone and nitrogen oxide effects will not be improved by SO_2 emission reductions alone.

The extent of changes in effects which may arise from ozone and nitrogen oxide would depend on the selection of control methods which included reductions in more than sulfur emissions alone.

3. Sulfur Deposition Effects on Surface Waters:

3.1 Current Status of Surface Waters: A percentage (0 to 6 percent) of eastern and midwestern lakes and streams are acidic, and a further percentage (0 to 18 percent additional) of these lakes and streams are highly sensitive to acidification. Regional distributions of lake and stream acidity are summarized in the following table. While this survey information cannot be used to establish the cause of a water body's status,

it provides a description of the number of acidic and very sensitive surface waters for the population sampled. Biological impacts are expected in acidic waters and may occur in sensitive surface waters. Snowmelt and intense summer storms can increase surface water acidity and lead to many more acidic waters than reported, particularly during biologically sensitive times of the year.

Region [1]	Status (number of lakes or streams in percent)	
	Acid (ANC $<0\mu eq\ L^{-1}$	Most sensitive (ANC $<50\mu eq\ L^{-1}$
Lakes: [2]		
Northeast	5	19
Upper Midwest	2	15
Southern Blue Ridge	0	1
Florida [3]	22	35
Mountainous West	0	17
Streams:		
Interior Mid-Atlantic	3	11
Mid-Atlantic Coastal Plain	6	24
Interior Southeast	0	5
Florida [3]	12	61

[1] Regions reported are as defined in NAPAP and EPA documents. Values reported are regional averages. Proportions of acidic and most sensitive surface waters within defined subregions are considerably lower or higher than this average.

[2] Small lakes (less than ten acres) were not sampled by EPA but in some areas (e.g., New York's Adirondack Mountains) are more likely to be acidic than larger lakes.

[3] Compared to other regions, it is better established that surface water acidity in Florida is the result of other processes in addition to acidic deposition.

3.2 Future Projections:

Indications are that the steady-state hypothesis holds in the Northeast, i.e., taken as a region, surface waters are in equilibrium with sulfur inputs. In the Southern Blue Ridge Province systems are not in equilibrium and are still absorbing sulfur. Assuming these conditions to be true, the following results may be expected.

The relationship between acidity changes and sulfur additions is complex. In general, percentage changes in sulfur will be accompanied by small changes in acidity.

3.2.1 Constant SO_2 Deposition: In the Northeast, little change will occur: few acidic systems will recover and few additional systems will become acidic. In the Southern Blue Ridge Province, significant changes could occur after the protective capacity of watersheds is exhausted (especially sulfate absorption capacity). Biological impacts will generally follow changes in acidity.

The Mid-Appalachian Region (part of the Interior Mid-Atlantic Region) is presently a key unknown. Significant research for this region is being completed and will be included in the NAPAP 1990 Assessment. This research was undertaken when EPA's National Stream Survey showed that sensitive surface waters occurred in some of the mid-Atlantic regions and the additional analyses suggest that significant acidification may occur within a few decades.

3.2.2 2000 Target Emission Reductions: In the Northeast, a percentage of systems will eventually improve chemically. This response will not be immediate since the watersheds will "bleed" sulfur into surface waters and a limited number of systems may continue to acidify. Due to the SO_2 reduction, more systems improve (chemically) than become acidic. Changes in acid neutralizing capacity will not be as large as change in sulfate. Biological recovery (e.g., self-reproducing fish populations) may require additional time. In the Southern Blue Ridge Province, the rate at which acidification occurs is slowed. Although there are few acidic systems at present, it is possible that some systems may become acidic in the future.

3.2.3 2005 Target Emission Reductions: Surface waters in the Northeast will respond similarly to the 2000 target case, except that the responses will be displaced in time, by less than five years. Recovery (chemical and biological) will occur but the response will not be immediate. Systems in the Southern Blue Ridge Province will continue to receive net increases in sulfur for an additional period. More systems may become acidic over this decade, but the additional number of acidified systems would be small.

4. Sulfur Deposition Effects on Forests:

4.1 Current Status: Preliminary indications suggest there is no widespread forest damage from acidic deposition. High elevation spruce forests in the eastern United States are effected by acidic cloud impacts, in combination with other stresses. At high elevations (>3400 ft) in the Adirondack and Green Mountains, the growth of red spruce has declined and mortality has increased (>50 percent dead.) Mortality in the Southern Appalachian Mountains is within the natural range but growth has declined. These forests represent less than 0.01 percent of the total eastern forested area. Cumulative effects of acidic deposition on some soils in the East may affect soil fertility in about 50 years. Sulfur deposition has changed soil nutrient status in the Midwest but this does not appear to have affected forest health.

The finding of "no widespread sulfur damage to forests" is widely acknowledged among most forest scientists, but varies from the views commonly reported in the media. NAPAP's state-of-science critical reports, with extensive reviews by all interest groups, are intended to assure credible findings on forest status. It is generally agreed that ozone reduces forest health in southern California and possibly also in some areas of the eastern U.S.

4.2 Future forecasts

4.2.1 Constant Sulfur Deposition: Continued decline of red spruce may occur at high elevation, although the remaining trees may be genetically more resistant to ozone and acid stress. Effects would occur only in association with another stress, e.g., drought, extreme low temperatures.

Some forest soils in sensitive regions in the East will exhibit reduced fertility from acidic deposition in about 50 years. This may affect forest growth.

4.2.2 2000 Target Emission Reduction: Current information suggests that only high elevation spruce growth would be improved if sulfur deposition were reduced. Although this represents less than 0.01 percent of the forests in the U.S., it is an important natural resource in our National Parklands. High elevation forests are also important in erosion protection. Possible changes in soil chemistry in sensitive regions in the East would be reduced and delayed if deposition were significantly reduced.

4.2.3 2000 and 2005 Target Emission Reductions: The reduction of stress on high elevation spruce growth would be delayed by a time of less than five years. Long-term (50-year) soil acidification improvement would be delayed slightly. Cumulative changes in the chemistry of sensitive soils would be reduced, but not as rapidly.

5. Sulfur Deposition Effects on Agricultural Crops:

5.1 Current Status: The yield per acre of most crops in North America has increased steadily over time for the past 60 years because of genetic improvements through crop breeding and improved management practices such as fertilization, irrigation and pesticide application. Year-to-year and site-to-site variations in crop yield are principally the results of natural environmental factors and management differences. Research indicates that crop yield is not impacted by acid rain. However, in many regions of the country, ambient levels of ozone reduce the yields of some crops by 1 to 15%.

5.2 Future Forecasts:

5.2.1 Constant Sulfur Deposition: No changes in crop yield are expected if current levels of SO_2 emissions continue.

5.2.2 2000 or 2005 Target Emission Reduction: No agricultural benefits are expected with any reductions in SO_2, except possibly on a local scale (within a few miles) near large smelters, refineries, or multiple point sources.

The benefits associated with the input of sulfur (a plant nutrient) to agricultural regions would be reduced if SO_2 emissions were reduced. This would result in higher sulfur fertilizer requirements to maintain optimal crop growth. Any control strategies that reduce ozone levels (e.g., NO_2 reduction) would likely benefit agricultural production.

6. SO_2 Emission Effects on Visibility

6.1 Current Status:

Summertime visibility over much of the eastern U.S. has decreased to a current visual range of generally less than 20km for areas east of the Mississippi River, except for northern New England, where it is 40 to 60km. Estimates of natural visibility in the East suggest background levels of visual range between 60 to 80km; substantially more than current levels in the East but still less than half of current western levels. Degradations in western visibility have not been as severe as in the East. Western visibility generally ranges from 100–200km.

In the rural East, reduced visibility results primarily from light scattering by fine particles, predominantly sulfate particles. In urban areas and in the rural West, light absorption and scattering by carbon particles is also important. The higher humidity in the East significantly increases the light scattering by sulfate particles compared to the West. Scenic vistas are affected by pollution at all 35 National Parks within the contiguous 48 states, and sulfate particles are the single most important factor in visibility impairment.

6.2 Future Forecasts:

6.2.1 Constant SO_2 Emission: Visual range would remain constant under current SO_2 emissions levels.

6.2.2 2000 or 2005 Target Emission Reduction: Visual range should improve immediately if SO_2 emissions are reduced, although quantification of the relationship is not yet possible. (Quantitative estimates are being prepared for the NAPAP assessment reports.)

7. SO_2 Emission Effects on Human Health

7.1 Current Status:

Both SO_2 and sulfate aerosols can result in bronchoconstriction in asthmatics and changes in mucociliary clearance. The SO_2 National Ambient Air Quality Standards (NAAQS) are met in most regions of the nation, and the remaining SO_2 nonattainment cases are subject to further regulatory control under existing Clean Air Act authorities. In 1985, the SO_2 NAAQS were exceeded in parts of 60 counties in 16 states.

Only a few direct measurements of ambient acidic sulfate aerosol concentrations have been made, and the highest measured levels are slightly lower than the concentrations which cause the effects mentioned above. However, some epidemiological studies suggest the possibility of long-term chronic effects resulting from exposure to high ambient levels of acid aerosol. EPA is currently considering the need for an acid aerosol ambient standard, and NAPAP is developing its analysis in close collaboration with the EPA regulatory decisionmaking.

Violations of the ozone NAAQS occur in many regions in the U.S. and it is likely that decrements in lung function occur in sensitive individuals in these areas.

Several indirect health impact mechanisms are being evaluated, including the possible mobilization of lead in low pH drinking water systems, and of mercury in lakes, with subsequent accumulation in fish used for food consumption. These studies are continuing; reported risk estimates will likely be low, but may not be negligible in all cases. (NAPAP's state-of-science reports to be released for public review in November 1989 will report on these risks.)

7.2 Future Forecasts:

7.2.1 Constant SO_2 Emissions: Chronic effects (if any) from acid aerosols would continue among sensitive individuals.

Indirect health risks (if any) would continue at approximately current levels.

7.2.2 2000 or 2005 Target Emission Reduction: Large-scale (50%) emission reductions would benefit individuals in those localities not currently attaining the SO_2 NAAQS. However, broad SO_2 emission reductions may not be a very inefficient means of achieving these benefits (i.e., if such emission reductions were not otherwise required).

Indirect health risks (if any) would be reduced. If significant indirect risks were confirmed, evaluation of specific emission reduction requirements in the affected regions would be necessary.

8. Sulfur Deposition Effects on Materials:

8.1 Current Status:

Acidic deposition increases the rate of deterioration of some building materials (e.g., galvanized steel and carbonate stone), some surface coatings (e.g., carbonate paint) and cultural resources (e.g., statues). The relationships between acidic deposition rates and deterioration rates for various materials are not well quantified, and are currently being investigated. Because of the large overall external maintenance costs for structures in the nation, enhanced deterioration from acidic deposition could potentially be significant. This is problematic since no generally accepted estimates of maintenance costs resulting from all air pollution impacts (nor from acidic deposition specifically) are currently available. Also, no credible analysis of consumer maintenance practices has yet been done. Additional information on this issue is anticipated for the 1990 Assessment.

Since most of the nation's materials and cultural resources are in urban areas, the focus of control decisions is similar to health effects, i.e. local sources need to be considered. Emissions from a limited number of remote sources (e.g., power plants) may result in a less than proportional impact on urban structures.

8.2 Future Forecasts:

8.2.1 Constant Sulfur Deposition: Current levels of surface deterioration will continue. Local situations of corrosion and other air pollution impact have been described but larger regional patterns of damage (i.e., those which would benefit from large regional SO_2 emissions reduction) are not well-characterized and constitute a significant gap in our knowledge.

8.2.2 2000 or 2005 Target Emission Reduction: Emission reductions will, at a minimum, provide an additional margin of safety relative to possible regional scale materials impacts from acidic deposition. No estimates of specific benefits are currently available. (NAPAP will report on the materials benefits which may result from sulfur emission controls in its Integrated Assessment in 1990. Because of significant data and inventory limitations, specific projections are unlikely. However, bounding estimates will be reported.)

9. Importance of Nitrogen Oxide (NO_2) Emission Reductions:

NO_2 emissions, which result from all combustion sources (i.e., both motor vehicles and stationary sources) can cause three types of effects on the regional scale:

Acidic deposition—typically 10 to 30 percent of that caused by sulfur oxides in the East. However, NO_2 may be a major component of acidic deposition to the extent that it occurs in the West.

Ozone (O_3) is produced photochemically by NO_x and volatile organic compounds (VOC). The O_3 production or degradation rate depends on the local ratios and absolute amounts of NO_x and VOC. This is very important because of the widespread nonattainment of the O_3 standard.

Contribution to eutrophication of coastal waters—may be a significant contribution (10 to 20 percent) in some cases.

Nitrates, derived from NO_x may be important in some acute acidification episodes in surface waters.

In view of the possible effects, the question of NO_x controls should be addressed as part of any evaluation of SO_2 control strategy.

Current SO_2 scrubber technologies remove very little NO_x emissions. However, currently available low NO_x burners may achieve 30-50 percent reductions. Some of the Clean Coal Technologies now being demonstrated (fluidized bed combustors, advanced scrubbers) also remove 30 to 50 percent of NO_x emissions.

10. Impact of U.S. Emissions on Canada:

The principal impact of acidic deposition in southeastern Canada is the same as in the northeastern United States—acidification of a percentage of watersheds and lakes in geologically sensitive regions. Because of the large number of Canadian lakes in sensitive regions, this is a particular concern. Acidic deposition in both Canada and the United States results from sources on both sides of the border. It is generally agreed that the net transboundary flux of sulfur oxides is from the United States to Canada.

Canadian government representatives frequently assert significant forest damage as a result of acidic deposition. (Indeed, some of the best documentation of severe forest damage from extremely high levels of sulfuric dioxide impact come from the Canadian experience near the nickel smelter in Sudbury, Ontario—the world's largest individual SO_2 source.) Most Canadian and U.S. scientists now agree that there is no scientific basis to relate widespread forest effects to current levels of deposition. Long-term cumulative impacts on the fertility of certain soils is being evaluated with respect to possible forest affects.

Canadian representatives have expressed specific concerns about acidic deposition impacts on its sugar maple industry. Current information indicates that insert infestation and management practices significantly contribute to the observed impacts. Note: Canadian production of maple syrup was at a record high level in 1988.

U.S. emissions reductions intended to benefit effects categories (e.g., surface waters, health and visibility) in the Adirondack area and New England will also benefit the principal areas of concern in Southeastern Canada.

II. Economic Valuation of Benefits:

NAPAP has avoided basing its assessments on explicit comparisons of the economic benefits and costs of controls, partly because only limited information is available on the economic values associated with some of the effects. NAPAP is currently conducting economic benefit evaluations in a limited number of situations, and will report on methodologies employed and specific results in its assessment reports.

Because of the impracticality of developing credible benefit estimates for all impacts by 1990, NAPAP is evaluating alternate emission reduction strategies on a comparative basis, in order to report on strategies which achieve largest benefits (as determined by either physical or economic measures, as appropriate) for similar control costs.

Because economic evaluation methodologies are not well agreed upon for all of the effects/benefits categories relevant to acidic deposition, NAPAP's comparative evaluation of control strategies recognizes three categories of benefits. Benefits in individual categories can be cross-compared for the various control strategies evaluated, but cannot be combined into a comprehensive dollar estimate of benefits. The categories are:

(1) Health related benefits—having special public policy importance;

(2) Economically evaluated benefits—including market estimates (e.g., productivity in commercial forests) and behavior base estimates (e.g., recreational use of lakes); and

(3) "Conservation benefits"—including preservation of remote lakes and mountaintop forests, for which economic evaluation methods are not well agreed upon.

12. Control Strategy Implications Resulting From the NAPAP's Effects and Technology Analyses:

The time scale for biological recovery of lakes and streams in the Northeast may be long in the Northeast so that little near term benefit would be expected to result from rapid emission reduction. The time scale and importance of other effects (lakes and streams in other eastern regions, possible health effects, materials impact, forest response, visibility impacts) is still being evaluated. If the time scale of all significant effects is long, rapid imposition of controls will not result in significant near term benefits. This suggests that slower but less costly control strategies should be evaluated carefully. Specifically:

There is general agreement that moderate emission reductions (e.g., 3 to 5 million tons of SO_2) can be achieved within approximately five years by currently available technology. This includes coal substitution, coal cleaning, LIMB duct injection, and enhancements to existing scrubber technology.

LIMB technology has been demonstrated for wall-fired boilers and is attractive from a cost-effectiveness standpoint for control of SO_2 and NO_2 emissions.

Scrubber technology is continuing to advance with a focus on increased removal efficiency and reliability and/or reduced costs. The current technology is ready for implementation with known cost, performance and environmental impacts.

Clean Coal Technologies, including repowering and advanced energy conversion techniques, are being demonstrated. These technologies are potentially lower emitting and more cost effective than current technologies. The demonstration program will help develop these technologies as well as clarify their ultimate performance, cost, and penetration rates.

The Clean Coal Technologies (CCT) currently being demonstrated have several significant advantages compared to the current generation of flue gas desulfurization (scrubber) technologies:

Improved energy efficiency through greater kilowatt output per ton of fuel consumed (less CO_2 emissions and global climate impact).

Significant NO_2 emission reduction (30-50 percent in some cases) not achieved by current scrubbers.

More manageable wastes, compared to scrubber sludge.

Potential future export markets (coal and combustion technology) for the United States.

Wide deployment of CCT instead of scrubbers would require an extension of the deadline to achieve the full planned emission reduction beyond 2000 (i.e., to 2003-2005) unless a "crash program" of technology demonstrations is pursued.

13. Future NAPAP Assessment Reports on Benefits and Strategy Evaluation:

NAPAP will complete a large series of State-of-Science and State-of-Technology reviews, and an Integrated Assessment reporting on comparative evaluations of control strategy options, during the next 16 months. All NAPAP documents will have extensive review by U.S. and foreign scientists, and interest groups concerned with acid rain issues. These NAPAP reports will provide the following:

Credibility.—This is the most important scientific product of NPAP's work. Reasonable national agreement on the major cause-effect relationships, and the effectiveness of the planned control strategy, is most important. NAPAP's extensive scientific and public review procedures address the need for credibility. The NAPAP International Conference on Acid Rain, scheduled for February 1990, will be the most visible part of the extensive review process.

Completion of scientific, technological and economic studies.—NAPAP will continue to provide decision-makers currently available information upon requst, for analysis of legislative options, while its several key cause-effect analyses and other studies are being completed.

Comparative evaluation of strategies.—These analyses will aid decision-makers in the evaluation of legislative options until a law is adopted, and will guide regulatory management in the years ahead.

Mr. CHAIRMAN pro tempore. Pursuant to the order of the House of Thursday, May 17, 1990, the Committee rises.

Accordingly, the Committee rose; and the Speaker pro tempore [Mr. ECKART] having assumed the chair, Mr. COLEMAN of Texas, Chairman pro tempore of the Committee of the Whole House on the State of the Union, reported that that Committee, having had under consideration the bill (H.R. 3030) to amend the Clean Air Act to provide for the attainment and maintenance of the national ambient air quality standards, the control of toxic air pollutants, the prevention of acid deposition, and other improvements in the quality of the Nation's air, had come to no resolution thereon.

□ 1840

PUBLIC WILL SUPPORT TAX INCREASES AND SPENDING CUTS TO BALANCE THE BUDGET

The SPEAKER pro tempore. Under a previous order of the House, the gentleman from California [Mr. STARK] is recognized for 5 minutes.

Mr. STARK. Mr. Speaker, the public is ready and willing to cut the deficit. They want a budget treaty to come out of this week's summit. The voters of my district tell me that they favor a balanced budget, even if Congress and the President are failing to act.

Based on a survey of about 6,000 people from California's Ninth Congressional District, there is support for enough spending cuts and tax increases to reduce the budget deficit to zero by 1994. People love their country and their children so much that they are willing to make the hard choices—now. Congress and the President need to roll up their sleeves. Fingerpointing will only increase the growing contempt of the political process.

Citizens have targeted defense spending as a prime source for cutbacks. They want to cut weapons procurement and Armed Forces operation and maintenance by 25 percent each, limit the strategic defense initiative to research and development, eliminate the B-2 "Stealth" bomber, and reduce active duty military personnel by 10 percent. These cuts would take place over 5 years and would total savings of $58.6 billion by 1994. There is close to 90-percent support for several of these reductions and all have at least 75 percent public approval.

The voters also cited Medicare reimbursement rates as an area for savings. Sixty-two percent support freezing reimbursement rates for hospitals and physicians for 1 year out of the next 5, saving $14 billion more.

People called for cuts in other areas as well, such as foreign aid, postal subsidies for nonprofits, and congressional expenses.

All the cuts put together total $79 billion in savings by 1994.

But this is only half of the story. To raise additional revenue, people called for seven of eight possible tax increases. They registered overwhelming to support for increasing the top tax bracket on the 600,000 highest income persons from 28 to 33 percent, and raising taxes on cigaretts, beer, and wine. More than three quarters of the taxpayers would reduce deductions for business meals and expenses from 80 to 50 percent, many arguing there should be no deduction at all and 63 percent would up the top corporate tax rate from 34 to 36 percent. A majority also agreed to putting a transaction tax on stocks and other securities, and 50 percent supported raising the Federal gas tax by 10 cents a gallon. Added together, the tax increases total $51.8 billion in new revenue.

If we followed this course of action, we would get an $800 million surplus rather than the currently projected $130 billion 1994 deficit. Mr. Speaker, Members of Congress, it's time we read the people's lips. They want the deficit cut and will accept and support new taxes and major spending cuts. For the sake of our children and the long-run future of America, let's do our duty.

AMERICAN OPPORTUNITIES WORKSHOP

The SPEAKER pro tempore, Under a previous order of the House, the gentleman from Georgia [Mr. GINGRICH] is recognized for 60 minutes.

Mr. GINGRICH. Mr. Speaker, I take this time, if I may, to report to the House on the American Opportunities Workshop which we had on Saturday nationwide in over 600 workshops around the country connected both by satellite and by the family channel, an hour-long television program which was broadcast at 10 o'clock eastern time, 9 o'clock central and again at 10 o'clock mountain time, 10 o'clock Pacific time. We believe, based on our current estimate, we sent out over 40,000 copies of the special supplement which was printed in the National Review. In addition, we believe there were probably more than 40,000 people altogether who took part in the workshops and the program, and I wanted to report to my colleagues on exactly what happened.

It is a bipartisan effort, an effort which had as one of the most vigorous members of the workshop, Representative Polly Williams, who is a Democrat from Wisconsin, who offered the voucher program in Wisconsin which this fall will allow 1,000 poor children to have a choice as to where they and their parents decide they will go to school. It was bipartisan in that one of our co-hosts was former Attorney General Griffin Bell, and it was a serious effort to reach out.

I think the seriousness of this was caught in the news coverage which came out. I want to include in the RECORD today and read from several articles in the Washington Post and the New York Times that I think gave a pretty good insight into what was happening. Let me start with the Washington Post coverage on Saturday morning entitled "Conservatives Embrace War on Poverty. Proposals Range From Reading Bonuses to College Tuition Promises." Paul Taylor is the author.

Rep. Newt Gingrich (R-Ga.) has made an offer to third graders in five low-income communities in his district he hopes they can't refuse: He will pay them $2 for each book they read this summer.

Housing and Urban Development Secretary Jack Kemp thinks the federal government should guarantee full college tuition payments to every poor child in America who finishes high school. He doesn't care how much it costs. "As a society, we have the money," he said.

Paul Weyrich, president of the Free Con-

gress Foundation, wants welfare payments to a single mother to be tied to three conditions: Her abstinence from drugs, her willingness to seek financial support from the absent father, and her child's continued attendance in school. He also believes that rather than confiscate illegal drugs, the Drug Enforcement Administration should contaminate them "with a substance that makes users wretchedly ill, preferably with distinctive symptoms."

These conservative activists are at the cutting edge of an intellectual and political movement that is suddenly alive with manifestoes, paridigms, proposals and debates. They're trying to launch a new War on Poverty—a conservative war, grounded on the principles of individual empowerment, bureaucratic decentralization and market incentives.

They bring an urgency to their mission. Gingrich says the nation is "on the verge of catastrophic decay" because of its growing underclass. He says it's no longer sufficient for conservatives to rail against "the bureaucratic welfare state's" role in fostering the social pathologies of the poor. "We've won that argument," he said. "Now we have to show we can come up with something better. We have an obligation to govern."

He will open one front of the war today in the form of the American Opportunities Workshop, an hour-long television program beamed by satellite to more than 600 sites around the country. It will spotlight the efforts of citizen activists in poor communities to confront problems involving schools, crime, housing and other matters.

The show is being underwritten by $500,000 raised by GOPAC, a conservative political action committee Gingrich chairs, and will include taped messages from President Bush, Vice President Quayle, former attorney general Griffin B. Bell, Kemp and others.

"There's a realization percolating through the conservative movement that there really can be a political payoff—as well as a policy payoff—in these issues," said Stuart Butler, director of domestic policy studies for the Heritage Foundation and an advocate of eliminating virtually all taxes on the working poor. "During the Reagan years, to put it crudely, the political beancounters didn't think there were any votes in fighting poverty. Now I think that attitude is changing."

Kemp and Gingrich long have preached that for the Republican Party to become a true governing majority it must show good faith on issues of poverty. Under Republican National Committee Chairman Lee Atwater, the GOP has set a goal of doubling President Bush's black vote total—to 20 percent—in 1992. Several of the local activists to be featured on today's show will be black Republicans.

But before there can be a political payoff, conservatives acknowledge they must first agree upon a coherent anti-poverty policy.

"As a movement of dissent, much of the conservative agenda has been articulated in negative terms," Weyrich wrote in a 11-page memo now circulating in conservative circles. "It is much easier to build and maintain an opposition movement than it is to govern."

Earlier this spring, James P. Pinkerton, deputy assistant to Bush for policy planning, outlined what he called a "new paradigm" for attacking social problems. It included these principles: Anti-poverty policies must bring market forces to bear; they should fund individuals rather than bureaucrats; they should expand poor people's array of choices, and they should be measured by results achieved rather than dollars spent.

While most conservatives embrace those tenets, there is lots of debate over execution. The difference between the Kemp and Gingrich approaches to education funding is instructive. Kemp wants a direct government guarantee. Gingrich urges incentives funded by the private sector. His $2-per-book "earning for learning" pilot program is to be funded from speaking fees he receives. He hopes local businesses eventually will join in the program.

In general, Gingrich believes that the only extra government dollars for poor communities should be used for police protection.

Kemp takes a more expansive view of government's role. "You can't throw out the baby with the bath water," he said. "There's no question you have to apply resources—real government dollars—to these programs."

That is the article from the Saturday Washington Post entitled "Conservatives Embrace War on Poverty." Let me say overall I think Paul Taylor in that article caught the essence of where we are trying to go, although I would suggest that I would believe in a lot more government activity than simply police protection. But I do think when we look at New York City's $27 billion city budget, and New York City's 300,000 full-time employees, that for the city government the problem is not lack of money. The problem is how do we spend the $27 billion in New York City, not how do we go out and find more money to pour into a bureaucratic welfare state that is failing.

On Saturday Paul Taylor was in Detroit at the workshop, and this is the report he wrote for the Sunday Washington Post entitled: "GOP-Backed Teleconference Stresses Community-Based Solutions."

DETROIT, May 19.—At the stroke of 10 a.m. today, the "citizen opportunities movement of the 1990's" was launched here in the Rev. Keith Butler's crowded innercity church.

And in a barbecue restaurant in rural Newnan, Ga.

And in a Hispanic neighborhood in San Diego, a community center in Orange City, Iowa, and an auditorium in Portland, Maine.

Community workshops in these five sites were strung together by satellite into a live, televised, interactive, hour-long national town meeting that married conservative ideology with modern technology and old-fashioned grass-roots organizing.

The $500,000 satellite teleconference was the brainchild of House Minority Whip Newt Gingrich (R-Ga), who explained from his perch on a stool at Strayberry's Barbecue in Newnan that the point was to demonstrate that solutions to common problems of poverty, drugs, crime, education and the environment "will not come from one big decision in Washington."

"The age of the centralized state is over," President Bush added in a brief taped speech. "We must address problems not with bureaucracies, but at the community level, one citizen at a time."

Here on the east side of Detroit, the featured community problem-solver was a guest from Milwaukee, state Rep. Polly Williams, who described how she pushed the most advanced school voucher program in the nation through the Wisconsin state legislature earlier this year.

Vouchers are a favorite approach of conservatives because they give individuals more choice and make public bureaucracies face stiffer competition. Under the Wisconsin plan, which goes into effect this fall, almost 1,000 low-income Milwaukee students will be given $2,500 apiece to cover their full tuition if they choose to attend a private nonsectarian school. For every child who exercises that option, the Milwaukee school system will lose $2,500 in state funding.

Williams, a Democrat, a former welfare mother and a state coordinator in 1984 and 1988 for Jesse Jackson's presidential campaign, said only "bureaucrats" and "white liberals" fought the change.

Among her most interested listeners here was Butler, 34, the pastor of the 5,000-member Word of Christ Christian Center and a rising political force in Detroit. Two years ago, Butler, who is black, organized a grass-roots movement that defeated casino gambling referendum favored by Mayor Coleman Young (D); last year he became the first Republican in recent history elected to the City Council.

Butler is supporting a slate of candidates for school board this year who advocate a similar voucher plan for Detroit. "There is a realization that what is going on in the schools right now just isn't working," he said.

Although today's program was funded by GOPAC, a Republican political action committee, there were no references to partisan politics. "This isn't about politics," Butler said. "It's about helping people learn how to succeed. If you do that, they'll listen to what you're talking about in other areas too."

The hour did not go flawlessly. A glitch made the satellite-fed pictures arrive on the two large television screens in Butler's church a split second ahead of the audio—so when Bush spoke or when a Georgia sheriff described how he maneuvered past local bureaucrats to build a new low-cost modular jail or when a Maine entrepreneur talked about his environmentally safe coolant for refrigerators, reading everyone's lips was no small feat.

The question-and-answer segment between cities didn't produce much in the way of soaring exchanges. "What advice would you give to citizens who want to get involved?" a Hispanic restaurateur from San Diego asked Butler midway through the program. "Roll up your sleeves and go to work," he responded.

But the workshop here grew much more animated—full of name and phone number exchanges—once the show was over, and the Detroiters spent another hour talking among themselves.

"As a race, we are not trained to become entrepreneurs, we are trained to work for other people," Terry Wynn said to the applause of the overwhlemingly black audience. "A lot of our people think we are doomed to just work for GM [General Motors] for 40 years and then die. We have to change the way we think."

Wynn, 27, who started a business that places temporary workers in law offices, asked Butler if he would use his church to teach entrepreneurial skills to the community. "We already do," Butler said. "Now all of you here tell your pastors to do that too. If you ask, they'll respond."

The exchange captured what Gingrich hopes will happen on an ongoing basis. Starting in July, his plan is for community activists to have monthly town meetings, shown on local community access cable channels across the country. GOPAC's

American Opportunities Workshop provides programming to assist them. "What we are really creating here is an American citizen's television," said Howard "Bo" Callaway, chairman of GOPAC.

Organizers to today's teleconference said it was sent by satellite to about 600 community workshop sites around the country. Several dozen cable stations also picked it up.

□ 1850

That was the article by Paul Taylor in the Sunday Washington Post.

Let me just mention a couple of things. First of all, the goal was, wherever possible, to have a workshop that performed exactly as Paul Taylor suggested it would. I got a report today from Paul Weyrich, who was out at the Detroit site. Paul Weyrich is the head of the Free Congress Foundation; has been a leading strategist in the conservative movement. He said that the hour after the television show the Detroit workshop was, if anything, more excited and more exciting than the television program.

I called in to a program that JOHN KYL was leading in Phoenix, AZ, at a high school, which also had a very resounding—at Horizon High School—had a very exciting, over 100 people, who were involved.

I talked to people by telephone after the workshop on Saturday in Florida, Fargo, ND, Texas, New York and a number of other States, such as Indiana.

The reaction we got over and over was the people were involved locally in developing new approaches and new attitudes.

I think one of the key points here is that we were encouraging people who were already active to get even more active.

For example, in Manchester, NH, the mayor of Manchester led a local workshop which was carried by the local cable access channel after they got done watching the local program. Of course, because we were on the Family Channel, we had used an 800 number to allow people to call in, an 800 number which is still available and which is designed to increase the number of people who on their own can get active and who can get copies of the videotape from the Saturday program. It was 800-872-2798.

We got about 380 phone calls by 5:00 on Saturday from people who were very interested in getting a copy of the videotape or getting involved in the program.

Now, the New York Times also covered the program on Sunday in an article entitled "GOP Conservatives Take Grass-Roots Road," by Robin Toner,"

NEWNAN, GA., May 19.—Representative Newt Gingrich's vision of the conservative future came to Sprayberry's Barbecue here today. Satellite trucks rolled up in the parking lot, Mr. Gingrich took his spot before the cameras, and a national teleconference began, grandly aimed at inaugurating a "citizens opportunity movement."

The one-hour program featured a tough, jail-building county sheriff, a black woman who fought for the right of parents to choose which schools their children could attend and a Hispanic entrepreneur, all presented as success stories of people solving problems close to home.

The program, carried by cable stations and by satellite to more than 600 sites around the country, repeated the message that Mr. Gingrich and other conservatives have been advancing in recent months. "All of us know the bureaucratic welfare state has failed," said Mr. Gingrich, a Georgia Republican, House minority whip and a leading theoretician of the right.

The future, he and others argued over the hour, depends on citizens solving problems at the grass roots, technological innovation, entrepreneurial drive and a resurgence of basic American values like hard work, education and responsibility.

While organizers of the conference sought a non-partisan, nonideological tone—former Attorney General Griffin B. Bell, a Democrat, was one of the guests—it reflected the attempt by many conservatives to redefine their movement for the 1990's.

"We can't be successful unless we find a replacement for the bureaucratic welfare state," Mr. Gingrich said after the conference. "I mean, we are trapped into being basically a cheap welfare party versus a lavish welfare party."

The solution, in the view of some conservatives, is "a new paradigm" for American politics that emphasizes a decentralized, grass-roots approach to dealing with many social needs. Mr. Gingrich spent much of today talking about the unique nature and responsibilities of American citizenship, quoting texts from de Tocqueville to the Declaration of Independence.

REPUBLICAN LEADERS ON TAPE

Today's session also included taped messages from President Bush, Vice President Dan Quayle and the Secretary of Housing and Urban Development, Jack Kemp. Mr. Quayle talked about unleashing the American spirit in "the exploration; conquest and development of space." Mr. Bush talked about the power of "a thousand points of light," the cumulative impact of individuals doing good deeds. "What you're doing this morning really matters," the President said. And Mr. Kemp talked about giving "opportunity to help people help themselves."

Democrats were watching the effort with interest. "We don't pooh-pooh the idea of progressive action by citizens to deal with problems locally," said Michael McCurry, a spokesman for the Democratic National Committee. "We think that's an idea with a lot of potential in the Democratic Party."

Today's session was principally sponsored by a political action committee, Gopac, devoted to building the Republican Party at the local level. Former Representative Howard H. (Bo) Callaway of Georgia, chairman of the committee, said today that a non-partisan organization would be established to produce and distribute future programming like today's for use by citizens groups.

The point I want to make tonight in putting into the RECORD the two articles from the Washington Post and the article from the New York Times, and in talking briefly about the actual program from Saturday, when we had the American Opportunities Workshop at Sprayberrys in Noonan, GA, and around the country, is that it is possible to develop new, positive approaches. It is possible to develop a different way of dealing with issues.

I noted that David Broder, in a column entitled "Political Sleaze Control," described what he called "my crank crusade to improve the tone and increase the substance of our political campaigns."

Now, I think that it is a very, very interesting thing that USA Today, the Washington Post, the New York Times, the Wall Street Journal, a variety of important publications, a column by Dick Williams in the Atlanta Journal, a column by Warren Brooks, which appeared nationally, a column by Don Lambro which appeared nationally and in the Washington Times, that a number of places around the country—an editorial in the Phoenix newspaper—a number of items I am going to be putting into the RECORD in the near future, again and again and again there were people in the news media interested in developing a positive idea-oriented approach.

□ 1900

We were very encouraged by some of the coverage we got. It was not everything we might have liked, but more than we would have gotten in the past, I think. Yet it was about an entirely positive program, a program which was designed without mentioning either party, without talking about a single campaign, without attacking anyone, to produce positive dialog about solutions for America's future.

Let me read from the opening to the program by Joan Scott, and I think it will give the Members of the House a sense of just how positive and just how problem-solving the American Opportunities Workshop was on Saturday, and Members can see why so many people called the 800 number, 800-872-2798, and indicated they wanted to get involved in a positive way. She said in the opening to the program, "All over America, men and women are inventing and creating and building a better future for their children, their neighbors, their families, their friends. Together, Americans are once again bringing human freedom to bear to create an even greater chance for human happiness. We decided in our Constitution that we, the people, have real power. All over the world, people are now pursuing that same freedom. During the next hour you will have a chance to join with others across America to celebrate the success stories that are the essence of the American dream."

Now, that was the positive tone with which we set out to suggest that there is an America that works, there is an America that is solving problems.

We outlined a model for change. We suggested, frankly, in about 60 seconds' time that the bureaucratic welfare state has failed so badly, that the failures of the bureaucratic welfare state are so obvious, rather than procurement in the Pentagon or trying to run Washington, DC or New York City, we do not have to spend a long time about talking about what does not work in America, and we also suggested permissive attitudes have clearly failed. That is not the way to solve America's problems. That promoting Johnny when he cannot do the work does not help Johnny. That allowing young people to get out of jail early when they have given no evidence of change in their behavior simply encourages more of the criminal activities that put them in jail in the first place. That not being honest about the risk of multiple partner sex was a significant factor in the rapid spread of AIDS. That not being honest about the dangers of so-called recreational drugs was a significant factor in the initial spread of heroin, cocaine, and crack.

People know that things in the bureaucratic welfare state and permissive attitudes do not work. What people are hungry for is explanations of what will work. We, early in the program, talked about the triangle of American success, the concept that literally there is a triangle that explains most of what has worked in American life. That the bottom of that triangle is basic American values, that the one side of the triangle is entrepreneurial free enterprise, and the other side of that triangle is technological process and innovation. Then we turned to Maine, where Gov. Lamar Alexander, the former Governor of Tennessee, and the current Governor of Maine, Jock McKernan, introduced Doug Sukeforth. Doug Sukeforth is an entrepreneur and inventor, a man who has developed a new technology that will eliminate the chlorofluorocarbons which are a problem in the ozone layer, and which are a major factor in refrigeration technology. Doug Sukeforth, starting in his garage as an inventor, developed a new approach to refrigeration, which may not only make him a lot of money but may, in fact, lead America to having a dramatically better future in terms of saving the ozone layer.

Therefore, it combines the best technological innovation and progress with the best entrepreneurial free enterprise. The result was a positive attitude toward both small business, technology, and the environment.

Then we talked briefly with what was possible in the exploration of space. I mentioned in the book that Mary Anne and I had written a book called "Windows of Opportunity," and the fact that I had a long chapter on space and the opportunities clearly for creating jobs by going into space. Then Vice President DAN QUAYLE discussed the kind of breakthroughs that we are seeing in space, the development of new private enterprise launchers that are going to allow the United States to launch satellites for much less money. The development of new approaches to commercial activities in space, and Vice President QUAYLE suggested that much of mankind's future and America's future lies in the area of the exploration of space.

Then we emphasized the importance of entrepreneurial free enterprise. The particular workshop that I was at, Sprayberry's Barbecue in Noonan, GA, was a pefect place to talk about entrepreneurial free enterprise, because Sprayberry's was founded in 1926 by the Sprayberry family. They are still earning a living. The third generation is working as Sprayberry's Barbecue and the grandchildren representing the fourth were running around. They sell barbecue, they are relatively famous though just a small family barbecue restaurant, but viewers could see the difference. In 1926 the road out front was a dirt road. Now it is paved. In 1926 they had no access to electricity, so they had to buy a generator to create electricity on the site. In 1926 we still had ice being used in many places for refrigeration, and there was no air conditioning. There was no microwave oven. There was no color television or black and white television. In fact, in 1926, commercial radio was just beginning, and the first radio station in Georgia had not yet opened up commercially.

So Members can see how much the world has changed. Entrepreneurial free enterprise created jobs, gave families the income they used to pay their taxes, they used to contribute to their churches or synagogues, they used to be involved in local good deeds, whether through a Kiwanis or Rotary or Lions or Business and Professional Women's Club, or to the Boy Scouts or Girl Scouts. We tried to suggest that reestablishing the importance of entrepreneurial free enterprise was a very important part of the triangle of American success. That it was encouraging people to go out and create businesses, to create jobs, to create wealth, that it was a very real part of what had made America work.

At that point we went to San Diego where the gentleman from California [Mr. HUNTER] introduced Luis Garcia. Luis Garcia was a man who created jobs in the Logan Barrio back in San Diego back in the 1970's. Some bureaucrats decided to build a freeway through the middle of the neighborhood, and for a while things were bad, but people like Luis Garcia and his father who founded Chuey's Restaurant in San Diego, are showing that entrepreneurial free enterprise can work even in the toughest condition. Luis Garcia began literally by painting flagpoles. That was his job. Today he has expanded and expanded, and today he has a business which directly employs over 80 people and which has over 150 people working as subcontractors. The point that Luis Garcia made on the program, talking from San Diego, was that every time we can take a person off of welfare and get them engaged in honest hard work so that the check they take home is a check they have earned, not a check that has been given to them, we improve the human condition. We improve the opportunities for them to be a model of the right kind of behavior, the right kind of basic American values.

So entrepreneurial free enterprise is important both because it creates the wealth which is the base of all taxes, and the base of all civilization, and also because it creates the personal pride, the personal sense of moral strength, which has to be at the core of basic American values and at the core of a free society.

Then we went to listen to Jack Kemp, the Secretary of Housing and Urban Development. Jack Kemp made the point that everywhere he travels across America, in Dallas, in East St. Louis, in Detroit, in Pittsburgh, in Washington, DC, he finds people who are currently economically poor but who are spiritually rich, who want to have an opportunity to manage their own public housing projects, who want to have an opportunity to develop a better future, and that his work in tenant management, his work in providing new and better ways of doing things, is a step toward creating that triangle of American success, and toward replacing the bureaucratic welfare state with a new paradigm, as Jim Pickerton described it, with a new approach that strengthens basic American values.

At this point, that is what we turned to, talking about the key concept that underlying entrepreneurial free enterprise and underlying technological progress and innovation, the baseline of the triangle of American success are basic American values. Learning, honest hard work, honoring honesty, punishing crime, rewarding effort, encouraging savings, building for the future, all of the kinds of core values which Benjamin Franklin, Thomas Jefferson, George Washington would have understood.

□ 1910

These are values which permissive attitudes have undermined for a generation, but these are values that go to the core of what America has to do if we are ever to succeed.

Let me apply that for 1 second to education. People keep trying to find out how we can improve education, but yet I would stipulate that the core

problem in education is in money, it is the structure of the bureaucratic welfare state, and it is the fact that we now have the wrong values in our classrooms. When young people do not do homework, when 19 percent of the students at a prestige private college in the Midwest plagiarize in their papers, according to the New York Times, when folks cheat to get a grade, then the core of education has to be crippled, because education is essentially a moral enterprise. Education has to occur inside you; it has to be a part of your own growth, and your own willingness to learn, to study, to work hard, and when you are not willing to do that, I do not care how much money you spend in the building, what is going on inside the child or inside the student, whether it is a child or an adult, is not going to be right.

So we turned at that point to Detroit, MI, where we had what I thought was a real opportunity to study values with three remarkable people—Paul Weyrich, the chairman of the Free Congress Foundation, one of the leading thinkers in America for the conservative movement and a man who has truly thought long and hard about the values revolution from the left which gave us permissive attitudes, and who is himself now engaged in the values counterrevolution from the center and the right that is reestablishing basic American values. And there in Detroit with Paul was Keith Butler. It was in Keith Butler's church that the workshop was taking place. Keith Butler is a man who first went to a training program with Paul Weyrich some 4 years ago, learning how to be a citizen activist, and today he is what Paul Weyrich calls maybe the best example of citizens' grassroots activism in the country.

And then there was Polly Williams, a mother of four children, a woman who, herself, had been on welfare and is now Democratic State legislator in Milwaukee, just as Keith Butler is a Republican city councilman in Detroit. And then Polly talked about her experience buying a home in a middle class neighborhood, where she wanted to send her children to the local school, which was supposed to be a good school, and seeing her children treated not as individuals, not as human beings, but as numbers, seeing her children told that they were going to be bused out of their neighborhood past a good local school to a school that may or may not have been as good but was a lot further away; and the children did not matter as human beings, they mattered as statistics.

Polly Williams got so angry that she introduced a bill to provide a voucher so that local parents would have an opportunity to choose. She recognized that she lived in a community where they had a local private school, an all-black, school, 98 percent of whose children go on to college. So they had people who were proving that its not what color you were, it is what quality of education you were getting that mattered. And she was determined to give every poor family in Milwaukee an opportunity to have choice, an opportunity to have some control over their lives. It was a remarkable experience.

The addition, we looked at the National Review special supplement, a serious of articles which had had a major impact on the people who have read them so far, a special supplement committed to citizen activism and a supplement which I hope to read into the CONGRESSIONAL RECORD in the coming weeks, because I think the National Review really established a new baseline, and that, frankly, was one of the reasons we gave out the 800 number—1-800-872-2798, to be able to have people call in. In addition to getting a copy of the videotape of the program, they were also able to get copies of the special supplement.

Then we went to Orange City, IA, where Congressman FRED GRANDY hosted a number of fascinating people. We had hoped to have Chuck Schantag there. Chuck is a Vietnam veteran who created a remarkable private system called Buddy Search, which is a computerized system. He decided he wanted to find somebody who was with him in Vietnam, so he got involved in setting up a program of tracking down Vietnam veterans. He has 60,000 Vietnam veterans now on his Buddy Search system on a private computer. Chuck could not be here because the weather in the Midwest was so bad that he was trapped in his hometown and could not get to Orange City, IA.

But we did have Tony Diamond. Tony Diamond has been very, very involved in developing a nationwide program in which Vietnam veterans are putting on programs as public access television. Tony reports that over 70 public access cable systems now carry his weekly veterans' program, which is a program that I would recommend to everyone to be involved in. Bravo, which is the organization Tony put together, has had a real impact on bringing veterans together. We had a very emotional moment when they showed some film entitled "Buddy Search, Buddy Found," showing two Vietnam veterans who had not seen each other for years and who encountered each other at a meeting. And it was captured on videotape and it was an example of what President Bush means by "a thousand points of light." Here were private citizens having a private impact.

We also had Tom Burch, the chairman of the National Vietnam Veterans Coalition, who introduced us to Chuck and Tony and who was there in Orange City.

Then FRED GRANDY introduced the Orange City 21 Foundation. Here was a marvelous example of a small town which has on its own developed a very active, very aggressive program which has reached out through a private foundation, a nonprofit foundation. It works on better housing, and better schooling, and it works on helping senior citizens who are over 80 years of age. The Orange City 21 Foundation is exactly the right kind of local citizen activism, and it is precisely why we were doing the American Opportunities Workshop.

I think Orange City has a lot to show many places around America, and in a way, New York, Washington, DC, and Detroit would be far better cities if they thought of themselves as thousands of small Orange Cities gathered together. You cannot run, in my judgment, a successful big city; you can run a city which is a collection of small local neighborhoods. One of the failures of the last 30 years has been the way the bureaucratic welfare state, whether it is in New York or in Baltimore or Atlanta, has broken down the fabric of the small neighborhood community and has replaced it with an impersonal, inefficient, ineffective, and largely destructive bureaucratic welfare state which is more and more expensive but less and less helpful to human beings.

Then we went back to Detroit, where Paul Weyrich talked about the background of all this. Actually, as I look at my notes, Paul said, and I quote:

> For more than 15 years the Free Congress Foundation has offered training for citizen activists. There are now literally tens of thousands of activists who have participated in our training programs but none that we are more proud of than the man standing next to me, Keith Butler. In 1984, Keith and a group of his supporters got in a car and drove all night to participate in a training program we were sponsoring in Chicago. The next year a group of us came to this very church to offer training to many of the people here in this room today. I don't think we can take all the credit, but I do know that since then this group has become one of the most successful citizen activist movements in the entire country.

I was a little wrong in my earlier comment. It was 6 years ago that Keith Butler first drove to Chicago. And again, let us notice this concept. Keith Butler and his church members did not have a lot of money. I happen to have been a part of that training program at that time in Chicago, and I remember meeting Keith. They did not have enough money to spend the night, so they got up in Detroit and they left; they had two carloads, they drove all night, they came to the workshop, they worked all day in the workshop, and then they drove back home all night because they could not afford to stay.

That was done deliberately to be able to reach out to the future Keith Butlers. It was the people who want to learn how to have that kind of a workshop and that kind of a grassroots activism that led us to put the 800 number out, to make it easily available to no cost to people who wanted to learn more. That is why we put on the screen the number, 800-872-2798, so people could be involved and could get a copy of the National Review special supplement and have an opportunity to get a copy of the videotape.

As we talked more about citizen activism, we then turned to Perry Grogan. Perry Grogan is the sheriff of Paulding County. When he took office, the county was about to build a jail that was too expensive and too small. As former Attorney General Griffin Bell said:

I'm just very excited about what I am seeing, and I think it's about time we say more about the good things that are happening in America. You know, my area has always been the law, and people today are pretty frustrated about what has been happening, criminals getting out of jail early or not being punished at all. Obviously we need a little bit more common sense in the courts and on how we run our jails. One fellow who has been doing that is a friend of mine and Newt's named Perry Grogan, who is the sheriff of Paulding County, right next door to where you all are meeting today.

Common sense was the focus of the Perry Grogan story. Perry decided they ought to build a jail big enough to meet the county's needs out over the next decade, so instead of building a 100-bed jail, they would build a 200-bed jail. He then decided that instead of using a construction company that was not an expert, they would hire a construction firm from Mobile, AL that did nothing but build jails and was a specialist in building modular prisons. They built the prison to Federal standards so if they had any free space, they would be able to rent it to the Federal Government to house Federal prisoners.

□ 1920

Mr. Speaker, what they discovered was that they could actually lower the cost of the prison from $8 million to about $4.3 million while doubling the number of beds. That meant they had lowered the average cost per cell from $80,000 to $24,000, and I mention that because I think all too often we in Washington decide that effectiveness is a function of how much money is spent.

Well, Mr. Speaker, we are arguing in our approach to the new paradigm, as Jim Pinkerton of President Bush's staff of the White House has said; what we are arguing is that we believe that it is possible, by applying new approaches, by using entrepreneurial free enterprise, by being involved directly with technological progress and innovation, by insisting on basic American values, including honest hard work, we believe that it is possible, very often, to do more for less.

Mr. Speaker, this is not just an argument for cheapness. Anybody who goes to Paulding County, GA, and interviews Sheriff Perry Grogan and goes out and sees the modern, sophisticated, technologically advanced jail, the electronically controlled jail, which is of such a high standard that the Federal Government keeps their prisoners there and pays Sheriff Grogan so that the people of Paulding County currently have a profit center in this jail; they are actually making more out of renting it to the Federal Government than it is costing them. The net result of that has to convince my colleagues that, by applying common sense focused on success and opportunities that it is possible to do more for less.

Now I think that is a very important consideration, that it is possible to do more for less; not just to do less for less, not just to be successfully cheap, not just to avoid paying for things, but that, in fact, by applying a new paradigm and by applying new ideas it is literally possible to improve the quality of government, to improve the goods and services, to have better education, more effective jails, safer streets, better health care, more access to health care, et cetera, by applying the new paradigm that Jim Pinkerton described in his speech by that name, to apply the new ideas that the National Review special supplement outlines and to apply the concepts that were available on Saturday morning in the American Opportunities Workshop and which are made available to the people who are calling 800-872-2798, which was deliberately chosen because we wanted to really say—notice that we are not saying Republicans, we are not saying Democrats, we are not saying liberals, we are not saying conservatives. Mr. Speaker, we are saying to anybody who is interested in pursuing new ideas and developing the new paradigm that is designed to replace the bureaucratic welfare state in reestablishing basic American values so that they are more effective and more powerful than the permissive attitudes which would cripple America, we believe we are on the verge of starting a new movement.

Now I think one of the tests to us this summer is going to be very simple. Can we find new ideas to take into the budget summit? Can we find new approaches which can be useful and usable in trying to solve the Nation's budget problem? Is it possible to develop new techniques that will allow us to encourage young people to read?

I happen to be pursuing what we are calling "earning by learning" in Georgia, paying $2 a book to third graders who are marginal readers to encourage them to read this summer so that they can actually earn the money to buy a bicycle, or to buy blue jeans, or to go to Six Flags, or whatever they want to do with their money. However, in addition to that, we are trying to develop a new approach that encourages a wide range.

A colleague of mine, a Democrat, approached me today and said that he was intrigued with this idea of encouraging the people to spend the summer reading, and he is thinking of issuing a certificate which will be given to anybody who reads six or more books this summer. I think that is exactly the right approach. I think that by recruiting people to be activists, we can, in fact, develop what President Bush called the thousand points of light, not just as a gimmick, but as a reestablishment of what Alexis de Tocqueville talked about in his famous study, "Democracy in America."

Mr. Speaker, when de Tocqueville visited America in the 1830s, he was trying to explore what made America different, what made America unique. Why did America work in a way that European countries had not? And what he concluded was that the American experiment was based on the idea that there was a citizen, and there was a state, but there was also an enormously rich zone in between, the zone of citizen activism, that Americans were more than just taxpayers and voters. Americans were joiners. When they looked out and saw a problem, they sought an opportunity to solve that problem. When they found a solution, they gathered their friends together, and they began to work on the solution, that it was possible for Americans, more than any other people in the world, to belong to many different clubs, many different societies, many different activist, problem solving groups, and that most of the creativity of America was to be found, not in its Congress or its White House, not in its bureaucracy, but that it would be found in local communities doing local things.

One of the reasons that we encouraged people on Saturday to be involved and to get involved, though we encourage them to call 800-872-2798, was to say to them that we really believe that citizens of any background, black, Americans from African descent, white Americans of European descent, yellow Americans of Asian descent, red Americans of American descent, native born Americans, of all backgrounds, that together collectively we can find solutions that work in our communities, in our neighborhoods, talking with people, and that one of the goals has to be to reach out, to start a new idea, to find a new solution, to begin a new program.

Mr. Speaker, we warn people:

When you do that, you may, in fact, discover that you fall on your face. Maybe

your first idea isn't the smartest thing in the world. When you go back and look at the Founding Fathers, at the Benjamin Franklins, at the Thomas Jeffersons, when you look at the Wright Brothers investing the airplane, a Thomas Edison inventing the electric light, you find that again and again that perseverance is one of the keys.

As my colleagues know, Edison once said that genius was 1 percent inspiration and 99 percent perspiration. I think what that means is that hard work, persistence, being willing to try and try again are not just homilies that our grandmothers told us. They are truths about the nature of life.

If we could find a way to break New York City down from one centralized bureaucratic welfare state focused on Gracie Mansion, and instead think of New York City, about 7½ million people, of communities of no more than 10,000, so there were 750 neighborhoods in New York making up a city of 7½ million, those neighborhoods are manageable, not just with the kind of phony decentralization that has one more layer of red tape, one more layer of pathetically small power, the things that have been done with the New York City schools which have been a total disaster.

Mr. Speaker, as my colleagues know, Americans are smart. Americans know if they have real choice and real power, and, when they have real choice and real power, they use it. What we are suggesting is, if there were to be 750 neighborhoods that could raise taxes and lower them, that could set local regulations, that could license local businesses, that could in many ways patrol local communities, that we would have a much larger dramatic decline in crime, a dramatically lower drug use. We would have a neighborhood which had people who cared about their children, who cared about whether or not their kids had good schools, and we would have people who insisted that they got pretty good service, or they would not pay for their government, who would be willing to fire the local government if it did not work.

As it is today, no one, not Mayor Dinkins, not the city council, not the heads of the local government employees unions, but no one really knows how New York City works, and, as a result, it does not work very well. It is simply too big, too bureaucratic and too cumbersome.

However, Mr. Speaker, I would say the same thing is true in the Pentagon. The current Pentagon is the last stage of McNamara's legacy. It is the last stage of the centralized bureaucratic welfare state unable to do its job, and, as we look at a change in defense spending, one of the places we should most insist on is fundamental, dramatic overhaul in the procurement system and in the administrative red tape. We should shrink the parts of the Pentagon that are pure bureaucracy and emphasize the parts of the Defense Department that represent real fighting power and a real opportunity to train, and organize and mobilize our fighting men and women.

So, on Satuday we hope that we really took a step toward launching a citizens opportunities movement. We believe the American Opportunities Workshops were a success. I look forward in the next few weeks to reporting to my colleagues on various results around the country as they are reported to us, and I look forward to an opportunity to share new ideas, new solutions and new approaches as they emerge as part of the citizens' opportunity movement, and, as we develop the new paradigm, that I honestly believe will replace our bureaucratic welfare state with a triangle of American success, and it will replace permissive attitudes with a return to basic American values.

□ 1930

"M" AND "MERGED SURPLUS" ACCOUNTS OF DEFENSE DEPARTMENT—FOUR CASES OF DOCUMENTED ABUSE BY ANDY IRELAND

Mr. SPEAKER pro tempore. Under a previous order of the House, the gentleman from Florida [Mr. IRELAND] is recognized for 60 minutes.

Mr. IRELAND. Mr. Speaker, I rise to present my second report on the "M" and "Merged surplus" accounts of the Department of Defense [DOD].

This report focuses on four documented cases of abuse involving money drawn from the "M" and "merged surplus" accounts but also includes a detailed discussion of how the balances in these two accounts could be used to circumvent the Antideficiency Act and Gramm-Rudman-Hollings legislation.

Mr. Speaker, the four case studies outlined in today's report are a good sample of the issues surrounding use of the "M" and "merged surplus" accounts by the military services. They are a crosscut slice of the problem.

These four cases document the misuse of government money—a very serious offense indeed.

Mr. Speaker, I can't claim to be revealing important new information here. I wish it were so, but that's just not the case. Not at all. Congress has known about these abuses for quite some time. These very same facts were presented to Congress in formal reports issued between 1986 and 1989. And what was the upshot of all this fine audit and investigative work? Essentially nothing—except a few more congressional reporting requirements.

Well, in my mind, that is not enough. I want Congress to do something about the problem. Congress has a responsibility to act on this kind of information. We should take decisive action designed to stop it for good. We simply cannot allow it to continue unabated.

In keeping with my views on the need for action, I intend to lay some solutions on the table in the near future. That legislative proposal, I hope, will get at the root cause of the problem.

My proposal on how to fix DOD's "M" and "merged surplus" accounts will be the subject of my third report.

COMMON THREADS

Mr. Speaker, there is one common thread that runs through the four documented cases of abuse cited in this report. There is patent disrespect for contracts and the laws that govern them. There is a concerted effort to thwart the will of Congress, and the "M" and "merged surplus" accounts provide the perfect vehicle for doing it. They are subject to almost no scrutiny either within DOD or by Congress.

Mr. Speaker, this is not ANDY IRELAND's conclusion. This is the considered opinion of the General Accounting Office [GAO], which over time has been super cautious in rendering such judgments, and the very thorough and competent surveys and investigations staff of the House Appropriations Committee.

The military services are making obligations and expenditures, using money drawn from the "M" and "merged surplus" accounts, that do not conform with underlying contractual agreements. They lack legal foundation.

The failure to stay within the confines of contracts happens in two ways. Both are violations of internal DOD regulations and Federal law.

First, these moneys are being used to make upward adjustments to pay for work that does not lie within the scope of the original contract. They are also being used to reduce the amount of work already paid for.

Work that changes the scope of the original contract must be paid for with current appropriations, if authorized. Otherwise, a request for new appropriations must be made. While contracts contain very specific statements of work, military officials treat scope of work very loosely—like a piece of putty, which essentially places no limits on what can be done with "M" account money.

This kind of abuse makes a bad joke out of DOD contracting procedures.

One example helps to underscore the attitude of some military officials toward scope of work limitations.

In a 1985 incident, the Army increased a contract for repair work, which specifically cited the number of trucks to be repaired, by doubling the number of trucks to be repaired. Army officials argued that this did not constitute a change in scope since the type of repair work was unchanged. I think that says it all. Scope of work is no hinderance to the flow of funds from the "M" accounts.

Second, disbursements from the "M" accounts are not properly matched with recorded obligations supported by documentary evidence. Obligation of U.S. tax dollars must be supported by a legal contract executed while the appropriations involved are still available—before they expire and begin their journey into the "M" and "merged surplus" accounts. The inability to match obligations with contracts is due, part, to a failure to maintain line item accounting and fiscal year identity of money in the "M" account. This leads to duplicate and

erroneous payments of old bills for which proper documentation does not exist.

The case of the B-1B bomber and the Mississippi ammunition plant clearly shows how funds from the "M" accounts were used to make additions, deletions, reductions, and changes in the scope of work. In the cases involving the Army and Air Force stock fund, money was drawn from the "M" account and obligated without being properly linked to specific contracts.

LACK OF CONTROL AND OVERSIGHT

With the balances in the "M" and "merged surplus" accounts increasing by $4.5 billion a year, the risk of abuse is clearly present.

For starters, no one really knows what is in the "M" accounts. How can that be? Is this another black hole in the DOD budget?

The "M" accounts now hold balances of close to $20 billion—up from $184 million in 1973. There is a general consensus that the vast majority of these obligations are invalid because of lax review procedures. I hear said that the military money managers are just too busy working current appropriations to concern themselves with validating these old, expired accounts. They say it would be impossible to thoroughly audit the "M" accounts. If they do not know precisely how much had been obligated against outstanding appropriations, how in the world can they determine how much is needed in the budget?

The cases discussed in this my second report clearly shows that management of these two accounts is weak. Internal controls and procedures are either nonexistent or simply not followed.

While the military services have established procedures for reporting on the use of these funds—primarily dollar thresholds that kick in reporting requirements, a tremendous number of obligations are made without ever being reported to or approved by higher authority. Most are relatively small, and most are reported after the fact.

Mr. Speaker, big cash balances plus weak controls coupled with almost no information spell trouble in my mind.

CASE NO. 1

Finding: Illegal use of funds.

ARMY AND AIR FORCE STOCK FUND

In 1982, DOD requested $194.6 millon to finance a change in accounting procedures governing the Army and Air Force stock funds. The proposed change allowed obligations for stock fund purchases to be recorded when orders were placed rather than at delivery. Congress approved the change in policy but denied the request for money, directing the changes be accomplished within available resources by the end of fiscal year 1984.

The Army and Air Force had the new procedures in place in October 1983 and April 1984, respectively, but chose to carry out the congressional guidance in a very creative but very illegal way. They decided to finance the unfilled orders in question by applying the new procedure retroactively and reconnecting them to expired appropriations.

To do this, obligations for unfilled orders—orders still in the pipeline—had to be switched and connected to appropriations available when the orders were originally placed. The bulk of the unfilled orders originated in fiscal years 1982-83—expired appropriations. There was a problem, however. There were insufficient unobligated fiscal years 1982-83 appropriations to cover the full cost of all pipeline orders. So the Army and Air Force decided to extend the retroactive policy change even further—to fiscal year 1981 and earlier. This allowed them to tap the vast reservoir of unobligated money in the "merged surplus" account.

While it is perfectly proper to make retroactive adjustments to correct accounting errors, changes must be accurately recorded and documented. Each specific order and resulting obligation should have been identified and connected. However, this was not done. Instead, the Army and Air Force used a statistical samplying technique to calculate the adjustments. This approch lacked legal foundation, since the specific underlying transactions were not identified and did not support the calculated totals.

Using these illegal accounting techniques, the Army and Air Force eventually obligated $625 million from the "merged surplus" account to pay for the stock fund accounting policy change. This is $430 million more than originally requested by DOD but denied by Congress.

After reviewing all the facts in the case, GAO concluded that the obligation adjustments were illegal. They did not comply with the "Documentary Evidence Requirement for Government Obligations" specified in section 1501 of title 31, United States Code. GAO also concluded that the methods used by DOD to inform the Congress were not adequate and the information provided was insufficient.

Source: "Financial Management: Defense Accounting Adjustments for Stock Fund Obligations Are Illegal." GAO/AFMD-87-1, March 1987.

CASE NO. 2

Finding: Illegal use of funds.

AIR FORCE STOCK FUND

The Air Force stock fund sustained a $490 million loss between fiscal years 1980 and 1988, because aircraft fuel sales were not accurately recorded in the aviation fuels accounting management system.

In order to partially recoup the $490 million loss, the Air Force decided to withdraw $238 million from the "M" account. This decision was based on a claim that certain, specific obligations to the stock fund, which had been improperly recorded in previous years, had been identified. GAO said this action would have been perfectly legal, had those obligations been supported by documentary evidence required for all government contracts as specified in section 1501 of title 31, United States Code. Unfortunately, they were not.

The Air Force never identified the specific underlying transactions giving rise to the obligations in question.

The Air force once again failed to link previously unrecorded prior year obligations to actual sales records. Instead, the Air Force Finance Center relied on trial balances contained in the stock fund accounting system to establish the existence of accounts receivable. It was not possible to trace the accounts receivable recorded in the stock fund accounting system to original transactions, because the Air Force destroys source documents after 1 year. Is this legal?

The GAO concluded that these were not valid obligations and that the $238 million should be returned to the "M" account and the losses written off. Congress agreed with the GAO's assessment and directed that this be done in fiscal year 1990 appropriations bill.

In reaching this conclusion, the GAO underscored the need for strict compliance with the documentary requirements specified in section 1501. This provision, the GAO said, was enacted in 1955 because Congress thought that some agencies were overstating obligations "when, in fact, no real obligation existed." Is the Air Force guilty of such conduct in 1989?

The GAO issued a stern warning about the Air Force's failure to comply with section 1501.

"We are concerned," the GAO said, "if the Air Force is allowed in doubtful circumstances to restore previously unobligated amounts from the "merged surplus" and "M" accounts for payment to the stock fund (to fund new acquisitions), such action could undermine congressional control over the budgetary process and fiscal affairs."

Source: "Restoration of Funds to the Air Force Stock Fund Pursuant to 31 U.S.C. Section 1552(a)(2) To Recover Claimed Fuel Sales Losses." GAO/B-236940, October 17, 1989 (letter to Congressman MURTHA).

CASE NO. 3

Finding: Very questionable use of funds.

AIR FORCE B-1B BOMBER PROGRAM

When the Air Force encountered serious technical problems developing of the ALQ-161A—the defensive avionics system for the B-1B bomber, it initiated negotiations with the contractor aimed at "restructuring contract requirements" to "correct identified deficiencies." At the time, the Air Force claimed to be "holding the contractor's feet to the fire" and was determined to make the ALQ-161A meet contract specifications. A plan was finalized in January 1988.

Subsequent testing of the ALQ-161A in March-June 1988 revealed more "major design deficiencies." These indicated that the system would never meet contract specifications.

As a result of the new problems, further negotiations were held, resulting in still another recovery program.

The restructuring process was carried out in accordance with the "changes" clause and "correction of deficiencies" provisions in each contract. The "changes" clause authorizes the contracting officer—usually a low ranking military officer or civilian—to make changes "within the general scope fo the contracts." Although a contract's statement of work is specific and detailed, military officials suggest that determining what is within or beyond

scope of the original contract is a subjective task.

The "cardinal change" rule, established in court, is the means for judging what is within scope. It says:

The basic standard is whether the modified job was essentially the same work as the parties bargained for when the contract was awarded.

The contracting officer and general counsel concluded that the proposed modifications to the ALQ-161A were within the scope of the original contracts and therefore rightly charged to the original appropriations. On the basis of that determination, the Secretary of the Air Force approved a plan to use in excess of $1 billion of expired and "M" account funds to finance the contract modifications. While the GAO, after evaluating all the facts, concurred in those plans, they acknowledge that these were highly controversial decisions to say the least.

The central issue in this case revolves around the scope of work clause. Were the negotiated changes within the scope of the original contracts, or did they lie outside the scope? If the answer is yes, then the use of moneys from the "M" account to finance the changes was illegal.

An examination of the changes to the contracts raises serious questions in my mind as to whether they do indeed lie within the scope of the original contract.

What did the changes do? In a nutshell, they lowered the specified performance capabilities of the ALQ-161A and increased the cost. The original contracts contain very specific performance specifications. These were changed. They were lowered. The scope was reduced. Using the "cardinal change" rule adopted by the courts, the modified job was not the same one "the parties bargained for when the contract was awarded." It was, in fact, less than bargained for, and we paid more for it.

This is a continuing dilemma. If there is no change and if the work is within scope, then how do you account for the need for more money—except for correction of deficiencies to meet contract specifications.

There are other problems as well.

First, the B-1B had dumped just $527.1 million into the merged surplus account as of September 30, 1988, but plans called for drawing out $1 billion to execute the restructured contracts. The B-1B program would use about $500 million more in expired money than the program had contributed. To me, this sounds like an overobligation. It sounds like the Air Force was planning to spend more on the B-1B than Congress had appropriated for the B-1B. Though technically not a violation of the Antideficiency Act—section 1341 of title 31, United States Code—if constitutional limitations are ignored, since there was $2.4 billion in the "merged surplus" aircraft procurement account, the Air Force was clearly planning to spend more on the B-1B than Congress had authorized and appropriated.

Second, the Air Force was planning to overobligate B-1B appropriations by $500 million without telling Congress. At the time, there was no requirement to do so. Even within Air Force financial circles, it was kept very quiet. When newspaper reporters blew the cover on the whole operation, the Air Force notified Congress. These revelations nonetheless generated a lot of criticism in Congress. This, in turn, produced legislative limitations—new reporting requirements and specific restrictions on the use of lapsed appropriations for the ALQ-161A.

Source: "Strategic Bombers: B-1B Program's Use of Expired Appropriations." GAO/NSIAD-89-209, September 1989.

CASE NO. 4

Finding: Illegal use of funds.

MISSISSIPPI ARMY AMMUNITION PLANT

In January 1979, the estimated cost to complete the Mississippi Army ammunition plant [MSAAP] was $417 million. The plant was to be ready by December 1983. However, by December 1985, its cost had increased by $125 million, the project was far behind schedule, and many technical problems remained unresolved. And this was just the beginning.

To cover the cost overrun in the MSAAP contract, the Army authorized the use of $12 million from the surplus fund. Obligations of the $12 million were made in varying dollar amounts—some over $100,000 and some in lesser amounts. Not one was reported through appropriate Army financial channels.

The Army prepared a detailed plan, documentating how the $12 million would be used. This document was used to justify the request to draw $12 million from the surplus fund. It was transmitted up through the Army chain of command for a approval. Subsequently, when the Army began disbursing the $12 million, the items for which those funds were actually used differed from the approved plan in over half the cases. Several items were specifically identified "as additions or changes to the contractor's scope of work."

While Army officials openly acknowledged that the surplus fund was not to be used to change the original scope of work, their interpretation of scope of work for MSAAP allowed complete flexibility.

While such determinations are subject to policy and legal review, interpretations were found to vary widely. Some Army officials revealed that these interpretations were greatly influenced by the "looseness or latitude" in the wording of the original contract. This approach does not square with the way contracts are written. A contract's statement of work should be and usually is very precise.

Under the Army's flexible interpretation of scope of work, the Army could do whatever was deemed necessary to build a plant capable of producing a specified number of ammunition rounds per month. In the Army's mind, the original contract allowed complete flexibility as to how to achieve that goal. It allowed the technical staff to modify plant layout and/or quantities and types of machinery and equipment—all without changing the scope of work. One Army lawyer agreed that this interpretation meant that there was no limit on how much money could be drawn from the surplus fund to make the MSAAP meet established production levels.

The House Appropriations Committee's S&I staff found the Army's attitude toward scope of work was found to be "particularly troublesome." A lack of discipline was apparent.

Source: "A Report to House Appropriations Committee: DOD Portion of the Memorandum Surplus Fund and Related M Accounts." Surveys and investigations [S&I] staff, April 1986.

LOOPHOLE IN GRAMM-RUDMAN-HOLLINGS

The surveys and investigations [S&I] staff of the House Appropriations Committee has suggested that the unobligated balances in the surplus fund could be a potential loophole in the Gramm-Rudman-Hollings legislation.

In determining how much DOD spending authority needs to be sequestered to achieve Gramm-Rudman-Hollings outlay reduction targets, the S&I report states, the Congressional Budget Office [CBO] "give no explicit consideration to possible increases in the rate of obligations derived from the surplus fund." The S&I report concludes that those increases could "totally offset the anticipated outlay reduction—and it would not be known until after the fact."

Outlays from the "M" accounts are not insubstantial. In fiscal year 1987 they were $2.4 billion; fiscal year 1988—$3.7 billion; and fiscal year 1989—$3.9 billion.

The S&I report was prepared in 1986 and could be out of date. New procedures may be in place.

I have therefore asked the GAO to look into the matter—to determine to what extent the "M" and "merged surplus" accounts could undermine or negate the effects of the Gramm-Rudman-Hollings legislation.

CIRCUMVENTION OF ANTIDEFICIENCY ACT

Several months ago, I asked the American Law Division of the Congressional Research Service [CRS] to determine whether the balances in the "M" and "merged surplus" accounts were susceptible to Antideficiency Act violations.

I posed the question because both the DOD Inspector General and the GAO have reported on different occasions that the "M" and "merged surplus" accounts could be used as vehicles for circumventing the Antideficiency Act—section 1341 of title 31, United States Code.

Naturally, this provision of law is a matter of great concern to Government officials who handle money and contracts. Those who knowlingly and willfully violate it can receive a $5,000 fine and prison sentence of up to 2 years or both. Having unrestricted access to a $50 billion financial cushion obviously provides them with a certain measure of security.

The Antideficiency Act prohibits an employee of the U.S. Government from making or authorizing an expenditure or obligation exceeding an amount available in an appropriation or fund for an expenditure or obligation. It links obligations to their original appropriations. It ties an expenditure or obligation to an amount available in the appropriation for which the expenditure or obligation is made.

"M" and "merged surplus" accounts help to decouple—to breakdown—the linkage between appropriations and obligations.

Under the law, an "M" account balance is available to pay any obligation attributable to any of the appropriations from which it is derived. Consequently, payments from an "M" account do not need to be related to specific balances of appropriations transferred to it. When appropriations expire and lapse into the merged accounts, they lose their line item and fiscal year identity. Many different accounts

are lumped together under one general purpose category for each agency, like "Operation and Maintenance, Navy" or "Aircraft Procurement, Air Force."

According to the CRS report, an unpublished opinion issued by the GAO general counsel in 1974 arrived at the following conclusion: Once an appropriation balance reaches an "M" account, as a practical matter, it no longer is suspectible to violations of the Antideficiency Act, provided that the total of all such payments does not exceed the entire "M" account balance.

As the DOD IG has pointed out, once appropriations merge and lose their fiscal year identity, a violation of the Antideficiency Act is a remote possibility. Such a violation could occur only if identifiable obligations exceeded the entire "M" account balance plus the aggregate of all funds potentially restorable from the "merged surplus"—literally billions of dollars. The balances in many appropriations are so large that there is no risk of overobligation.

THE BUDGET AND NATIONAL SECURITY

The SPEAKER pro tempore. Under a previous order of the House, the gentleman from Missouri [Mr SKELTON] is recognized for 30 minutes.

Mr. SKELTON. Mr. Speaker, in this whole budget business there is one area that leaves me with great concern, a subject that goes to the very heart of our Nation's ability to remain the bastion of freedom in this day and in this time. This is the budget as it relates to national security.

Recently, Mr. Speaker, you will recall that this House passed its budget, a good part of it dealing with national defense, national security, and in that budget we passed a budget authority of a $32.8 billion cut, which is a 10.4-percent cut, an outlay cut of $11½ billion for next year, a 3.7-percent cut.

At the present time, leaders here and in the other body across the Capitol and people in the White House are working in a summit hopefully to reach a positive solution on this budget. A good part of it, of course, a very important part will be that which relates to national security.

The results of this summit can set the stage for the future role of America as a world leader. As you know, as a result of World War II we assumed leadership in this world by becoming the bastion of freedom, by becoming the center of stability in Eastern Europe, Western Europe and other parts of the world. We did this because to have done otherwise would have created a void.

Now the question is whether we will assume this leadership position in the days ahead, whether this budget will allow us to do so, or whether we will create that void which we do not think is desirable.

Between World War I and World War II we did not seem to learn the lesson of preparedness and the necessity for national arms strength, though we should have. I can point back to 1934 when the Army of the United States merely had 138,000 members. At that time we were the 16th largest army in the world, and we had antique weaponry.

World War II came. We had some lead, but not much of a lead building up toward that. We won by the greatest of effort, I am convinced, one of the great efforts of all time.

Then, of course, in 1945, victory came both in Europe, came in the Pacific. People were joyous, of course. There was euphoria. The syndrome was to bring the boy's home, and we did. We cut down the troops in Europe immediately to some 70,000 troops, and we were dismantling our national security effort.

Within 5 years, Mr. Speaker, we all recall that we were again embroiled in a major war in Korea.

Then Vietnam came along where we fought for many years, unfortunately without a solid strategy to lead us.

Now we find ourselves having been victorious in the cold war, that is insofar as Eastern Europe is concerned, the cold war as we know it has been altered.

Back in 1945, just as today, we won a war that was different from a cold war, but we won a war, and the following year in 1946, Winston Churchill told us of the Iron Curtain that had descended across Europe.

In 1947, we established under the leadership of President Harry Truman who worked with this Congress the Marshall plan which brought Western Europe out of the ashes of that war.

In 1947, we also established under President Truman the Truman doctrine, which saved Greece and Turkey from communism.

In 1948, NATO was established.

The containment theory, the containment doctrine, the containment strategy concerning the Soviet Union and its expansionist efforts to spread communism throughout the world was under way, as we saw with President Truman and what he did.

Then in recent days we have seen that this containment strategy has succeeded. Communism has lost in Eastern Europe, freedom has won, containment has won, resolve has won, the West has won, NATO has won.

Admist all this euphoria, however, Mr. Speaker, we should realize that there is only 6 months of good news, as opposed to some 44 years of Iron Curtain rule in Eastern Europe.

I am convinced, Mr. Speaker, that it is too soon to relax our Western resolve. There is still cause for concern and there is still strong reason for remaining a viable, strong force, The Warsaw Pact is no longer the enemy, but there is an enemy out there, and that great enemy is what we call uncertainty. We see in Eastern Europe as a result of the crumbling of the Berlin Wall and the Iron Curtain those people in those Eastern countries are going to be expecting political freedom and they are going to be expecting economic opportunity. This will come about, hopefully, in years to come, and let us hope that it does come to pass, but there will not be immediate political freedom as they envision it and there will not be immediate economic opportunity as we would like for it to be. These high expectations will not be met within the near future, and as a result there could be turmoil, disagreement, all of which leads to more uncertainty.

As a matter of fact, back in 1945-46, it took some 10 years for us to put together a strong strategy and the doctrine in place that was successful in fighting communism. It may take 10 years for Eastern Europe to straighten itself out and with help from the West to win the hearts politically and to straighten out their economy so they can be part of this free world.

Mr. Speaker, I am convinced that now is the most challenging of times. Uncertainty gives this world a kaleidoscope of unforeseen events. It is a funny thing about kaleidoscopes. One can never predict what pattern will occur, what new pattern will show up in the lens of that kaleidoscope.

You know, there was something positive about the Berlin Wall and the Iron Curtain, because there was certainty. That certainty allowed us to put a plan and a policy in place. That is not the case today. That is not so. Uncertainty prevails. The Soviet Union finds itself with large questions of stability, but let us look at the Soviet Union and see what it has done only recently. It has given $6 billion in aid and weapons to Castro's Cuba. It has given $2½ billion to Vietnam in 1 year, Afghanistan $4 billion in 1 year, North Korea $1 billion in 1 year, Syria, $1½ billion in 1 year, Angola, $1 billion, and Libya $1 billion.

Again in another look at the U.S.S.R., we find it still has 30,000 nuclear warheads, the world's largest conventional army and a modern blue water navy. All of that still exists, together with a strong modernization of its armed forces that is taking place today.

□ 1940

Mr. Speaker, we also see when we think of the uncertainty that exists in this world the volatile Third World, those countries that heretofore did not find themselves militarily strong, today having nuclear weapons, chemical warfare capability, guided missiles, and strong conventional armies.

What about China? Mr. Speaker, where is it headed? Is it headed in a

positive direction or a negative direction?

Speaking of tinder boxes, the Middle East continues to be one. There have been threats and problems in Latin America, and we have, as we know, had to send military forces in Panama to help straighten out an intolerable situation and help bring freedom to come to pass there.

Terrorism continues to be a fear. Hostage taking, drug traffickers, the question of Japan.

There was recently a United States Marine lieutenant general who said that the main reason for America being in the Pacific and having troops in the Pacific was the presence of Japan.

Mr. Speaker, all of this shows that there are continuous uncertainties galore. We also see surprise, or the possibility of surprise, unhealthy alliances. This world was shocked in 1939, with the Molotov-Ribbentrop Treaty between Joseph Stalin's Soviet Union and Nazi Germany under Adolf Hitler. Could such a treaty, though unhealthy and though a surprise, come to pass once again? Mr. Speaker, we need to keep our sealanes open. We need to have a conventional capability that will deter would be aggressors. We need to keep free trade flowing, and we, of course, must keep human rights moving in the right direction.

Mr. Speaker, the specter of uncertainty is with us, and, therefore, we cannot predict what forces will dominate in the days ahead, and when we speak of predictions, there is a past set of predictions, the history of predictions not being very impressive. Please consider these examples, these predictions, out of the past: David Lloyd George, former Prime Minister of Great Britain, in 1936, said, "Germany has no desire to attack any country in Europe." Time magazine, 1939, "The modern German theory of victory by blitzkrieg is untried and, in the opinion of many experts, unsound," and John Foster Dulles, at that time an American diplomat who later became Secretary of State, said in 1941, "Only hysteria entertains the idea that Japan contemplates war upon us." Captain William Pulleston, former chief of the U.S. naval intelligence, said in 1941. "The Hawaiian Islands are overprotected. The entire fleet and air force could not seriously threaten Oahu," said just several days before the Japanese attack upon Pearl Harbor. Our own President, Jimmy Carter, in 1977, said that, "Iran is an island of stability in the Middle East." Secretary of the Navy Frank Knox, December 4, 1941, 3 days before Pearl Harbor, stated, "No matter what happens, the U.S. Navy is not going to be caught napping," and then there is a caption of a photograph of the U.S.S. *Arizona* in a program for the Army-Navy football game dated November 28, 1941, and some 8 days later we will recall that this Arizona was sunk and is presently at the bottom of Pearl Harbor, and this caption on that photo in that football program said, "It is significant that despite claims of air enthusiasts, no battleship has yet been sunk by bombs."

Mr. Speaker, the spirit expressed by these assessments from the past lives on today in what is shaping up to be a golden age of optimism. Each week's newspaper columns propose deeper cuts in U.S. Armed Forces on the grounds that there is insufficient danger to justify their upkeep. The forecasters have surveyed the future and see nothing that alarms them.

Ironically they project peace and stability mainly on the basis of spectacular changes within the last 6 months, changes that truly have surprised us, and yet I think, Mr. Speaker, there are other uncertainties and changes in the days ahead.

During these days that lie ahead and when uncertainty reigns, there are four things that we in our country should keep in mind and that we need: The first is we should keep good people in the armed services of the United States. Second, we need to keep the seed core that is the intellectual capital in the officer corps alive. Third, we need solid strategy for our national security as well as for our Western allies. Fourth, we need to keep the defense industrial base and our technology well suited to our day and time.

First, let us discuss briefly keeping good people in the U.S. Army, Navy, Air Force, and Marines. The quality of the people in our Armed Forces today is probably as high as we have had it since World War II. They are well trained, well motivated, and they are good men and women, because they are there because they want to be. They are professionals. If we are going to have a solid Armed Forces, we need the best people, and we have them. We must keep them, and although we will get smaller in numbers, we must keep those quality individuals, those men and women who are proud to serve their country and do so with enthusiasm and professionalism.

Regarding the second item, Mr. Speaker, I am chairman of the Committee on Armed Services panel on military education, and we have been looking for some time at the professional military education of our country. It is good, and it is getting better. We have had a number of recommendations set, to the credit of these services, many of those recommendations, probably 85 percent of them, have been adopted without corrective legislation. They realize, as we in this body realize, that we must keep the intellectual capital of the officer corps sound. Although we were unprepared between World War I and World War II in weapons and in numbers, we did probably by accident rather than by design have a strong intellectual capital in tactics, operational and strategic military thought. We must keep this as it has been, and if anything, get better. I commend the various war colleges, the five intermediate and the five senior war colleges for the efforts that they have done. We must keep this intellectual capital strong.

Third, there is a need for solid strategy for our national security. One reason we did not fare well in Vietnam was that we had no real strategy for winning that conflict. We had a strong strategy in World war II, and it worked. We need a blueprint. We need a policy. We need an overall strategy, and that is what we need to do as Americans and as the West and freedom-loving nations in this world must glue together that solid strategy, for if we do not, we will find ourselves with the wrong kind of doctrine, weapons, and military should unhappy days come to pass.

Fourth, we need to keep the defense industrial base and its technology alive. We have done well, because we have, as a country, always regarded the importance of air superiority. We cannot let that slip. We have always done well in undersea warfare and undersea detection. We cannot let that slip.

In other areas, we must keep the research and development in those Buck Rogers type of things that unfortunately may be commonplace on tomorrow's battlefield in the scope of study and research.

□ 1950

These are things, Mr. Speaker, that we need to do.

So as we enter this budget summit between ourselves and the other body and the White House, I think we should keep in mind that we should not rush to judgment and dismantle our Armed Forces, because we got there with a lot of hard work and planning and a lot of fine people. Let us not let the budget numbers dominate. Let us let strategy, let us let policy, make the decisions. Let us keep this challenge in mind during this entire budget summit in the days ahead and those days that are to follow. Let us not rush to judgment, Mr. Speaker. Let us shape our national security and the Armed Forces in light of the uncertainty of today, because uncertainty, unfortunately, is the polestar of decisionmaking in the days and months and years ahead.

LEAVE OF ABSENCE

By unanimous consent, leave of absence was granted to:

Mr. THOMAS of California (at the request of Mr. MICHEL), for today and

the balance of the week, on account of a death in the family.

SPECIAL ORDERS GRANTED

By unanimous consent, permission to address the House, following the legislative program and any special orders heretofore entered, was granted to:

(The following Member (at the request of Mr. LENT) to revise and extend his remarks and include extraneous material:)

Mr. IRELAND, for 60 minutes, today.

(The following Members (at the request of Mr. MINETA) to revise and extend their remarks and include extraneous material:)

Mr. STARK, for 5 minutes, today.

Mr. ANNUNZIO, for 5 minutes, today.

Mr. NAGLE, for 5 minutes each day, on May 22 and 23.

EXTENSION OF REMARKS

By unanimous consent, permission to revise and extend remarks was granted to:

(The following Members (at the request of Mr. LENT) and to include extraneous matters:

Mr. STANGELAND.

Mr. BROOMFIELD.

Mr. LAGOMARSINO.

Mr. ROGERS.

Mr. BLAZ.

Mr. MACHTLEY in eight instances.

Mr. CONTE.

Mr. KOLBE.

Mr. GILMAN.

Mr. LEWIS of California in two instances.

Mr. GINGRICH.

Ms. ROS-LEHTINEN.

The following Members (at the request of Mr. MINETA) and to include extraneous matter:)

Mr. ANDERSON in 10 instances.

Mr. GONZALEZ in 10 instances.

Mr. BROWN of California in 10 instances.

Mr. ANNUNZIO in six instances.

Mr. MCMILLEN of Maryland.

Mr. FROST.

Mr. LAUGHLIN.

Mr. MARTINEZ.

Mr. HALL of Ohio.

Mr. MAZZOLI.

Mr. MONTGOMERY.

Mr. FALEOMAVAEGA.

Mr. VISCLOSKY.

Mr. NELSON of Florida.

Mr. FUSTER.

Mr. ACKERMAN.

Mr. ERDREICH.

Mr. SKELTON.

Mr. FEIGHAN.

Mr. WYDEN.

Mr. HOYER.

Ms. OAKAR.

SENATE BILLS, JOINT RESOLUTIONS, AND CONCURRENT RESOLUTION REFERRED

Bills, joint resolutions, and a concurrent resolution of the Senate of the following titles were taken from the Speaker's table and, under the rule, referred as follows:

S. 1128. An act for the relief of Richard Saunders; to the Committee on Interior and Insular Affairs.

S. 1738. An act to convey certain Oregon and California railroad grant lands in Josephine County, OR, to the Rogue Community College District, and for other purposes; to the Committee on Interior and Insular Affairs.

S. 1791. An act to amend the International Travel Act of 1961, to assist in the growth of international travel and tourism into the United States, and for other purposes; to the Committee on Energy and Commerce.

S. J. Res. 240. Joint resolution designating the week of June 10, 1990, through June 16, 1990, as "Multiple-Use Sustained-Yield Week"; to the Committee on Post Office and Civil Service.

S.J. Res. 315. Joint resolution for the designation of July 22, 1990, as "Rose Fitzgerald Kennedy Family Appreciation Day"; to the Committee on Post Office and Civil Service.

S. Con. Res. 133. Concurrent resolution providing for the use of the Capitol Rotunda; to the Committee on House Administration.

BILLS PRESENTED TO THE PRESIDENT

Mr. ANNUNZIO, from the Committee on House Administration, reported that that committee did on the following dates present to the President, for his approval, bills of the House of the following title:

On May 17, 1990:

H.R. 3961. An act to redesignate the Federal building at 1800 5th Avenue, North in Birmingham, Alabama, as the "Robert S. Vance Federal Building and United States Courthouse"; and

H.R. 1805. An act to amend title 5, United States Code, to allow Federal annuitants to make contributions for health benefits through direct payments rather than through annuity withholdings if the annuity is insufficient to cover the required withholdings, and for other purposes.

On May 18, 1990:

H.R. 3910. An act to require the Secretary of Education to conduct a comprehensive national assessment of programs carried out with assistance under chapter 1 of title I of the Elementary and Secondary Education Act of 1963.

ADJOURNMENT

Mr. SKELTON. Mr. Speaker, I move that the House do now adjourn.

The motion was agreed to; accordingly (at 7 o'clock and 52 minutes p.m.) under its previous order, the House adjourned until tomorrow, Tuesday, May 22, 1990, at 10 a.m.

EXECUTIVE COMMUNICATIONS, ETC.

Under clause 2 of rule XXIV, executive communications were taken from the Speaker's table and referred as follows:

3205. A letter from the Deputy Secretary of Defense, transmitting a memorandum of understanding between the United States and the Government of Italy on cooperative measures for enhancing air defense in Italy, pursuant to 10 U.S.C. 4542(e); to the Committee on Armed Services.

3206. A letter from the Secretary of Agriculture, transmitting a draft of proposed legislation to amend the National School Lunch Act; to the Committee on Education and Labor.

3207. A letter from the Chairman, Federal Trade Commission, transmitting the Commission's 74th annual report covering its accomplishments during the fiscal year ended September 30, 1988, pursuant to 15 U.S.C. 46(f); to the Committee on Energy and Commerce.

3208. A letter from the Director, Defense Security Assistance Agency, transmitting the Department of the Navy's proposed lease of defense articles to the Netherlands (Transmittal No. 10-90), pursuant to 22 U.S.C. 2796a(a); to the Committee on Foreign Affairs.

3209. A letter from the Director, Defense Security Assistance Agency, transmitting the Department of the Navy's proposed lease of defense articles to Venezuela (Transmittal No. 7-90), pursuant to 22 U.S.C. 2796a(a); to the Committee on Foreign Affairs.

3210. A letter from the Plan Administrator, Eighth Farm Credit District Employee Benefit Trust, transmitting its annual report for the year ending December 31, 1989, pursuant to 31 U.S.C. 9503(a)(1)(B); to the Committee on Government Operations.

3211. A letter from the Employee Benefits Manager, Farm Credit Bank of Columbia, transmitting the Bank's audited financial statement as of August 31, 1989, pursuant to 31 U.S.C. 9503(a)(1)(B); to the Committee on Governmental Operations.

3212. A letter from the Chief Judge, U.S. Tax Court, transmitting the actuarial reports requested for the U.S. Tax Court Judges' retirement and survivor annuity plans for the year ending December 31, 1988, pursuant to 31 U.S.C. 9503(a)(1)(B); to the Committee on Government Operations.

3213. A letter from the Clerk, U.S. House of Representatives, transmitting the quarterly report of receipts and expenditures of appropriations and other funds for the period January 1, 1990 through March 31, 1990, pursuant to 2 U.S.C. 104a (H. Doc. No. 101-195); to the Committee on House Administration and ordererd to be printed.

3214. A letter from the Deputy Associate Director for Collection and Disbursement, Department of the Interior, transmitting notice of proposed refunds of excess royalty payments in OCS areas, pursuant to 43 U.S.C. 1339(b); to the Committee on Interior and Insular Affairs.

3215. A letter from the Assistant Secretary, Non-Commissioned Officers Associations, transmitting the financial report for 1989, pursuant to Public Law 100-281, section 13 (100 Stat. 75); to the Committee on the Judiciary.

3216. A letter from the Vice President of Communications, Tennessee Valley Authority, transmitting the statistical summaries

annual report on its activities for the fiscal year October 1, 1988 through September 30, 1989, pursuant to 16 U.S.C. 831h(a); to the Committee on Public Works and Transportation.

3217. A letter from the Director, Congressional Budget Office, transmitting a copy of the report entitled, "Medicare's Disproportionate Share Adjustment for Hospitals"; to the Committee on Ways and Means.

3218. A letter from the Chairman, International Trade Commission, transmitting a draft of proposed legislation to provide authorization of appropriations for the U.S. International Trade Commission for fiscal year 1992, pursuant to 31 U.S.C. 1110; to the Committee on Ways and Means.

3219. A letter from the Secretary of Transportation, transmitting a report on passenger metal detectors in response to the requirement in section 2(e) of the Undetectable Firearms Act of 1988; jointly, to the Committees on the Judiciary and Public Works and Transportation.

REPORTS OF COMMITTEES ON PUBLIC BILLS AND RESOLUTIONS

Under clause 2 of rule XIII, reports of committees were delivered to the Clerk for printing and reference to the proper calendar, as follows:

Mr. ROSTENKOWSKI: Committee on Ways and Means. H.R. 3030. A bill to amend the Clean Air Act to provide for the attainment and maintenance of the national ambient air quality standards, the control of toxic air pollutants, the prevention of acid deposition, and other improvements in the quality of the Nation's air; with amendments (Rept. 101-490, Pt. 2). Ordered to be printed.

Mr. ANDERSON: Committee on Public Works and Transportation. H.R. 3030. A bill to amend the Clean Air Act to provide for the attainment and maintenance of the national ambient air quality standards, the control of toxic air pollutants, the prevention of acid deposition, and other improvements in the quality of the Nation's air; with amendments (Rept. 101-490, Pt. 3). Referred to the Committee of the Whole House on the State of the Union.

Mr. UDALL: Committee on Interior and Insular Affairs. S. 286. An act to establish the Petroglypy National Monument in the State of New Mexico, and for other purposes; with amendments (Rept. 101-491). Referred to the Committee of the Whole House on the State of the Union.

Mr. JONES of North Carolina: Committee on Merchant Marine and Fisheries. House Concurrent Resolution 69. A resolution to urge the development and implementation of a comprehensive United States oceans and Great Lakes policy (Rept. 101-492). Referred to the House Calendar.

PUBLIC BILLS AND RESOLUTIONS

Under clause 5 of rule X and clause 4 of rule XXII,

By Mr. FORD of Michigan (for himself, Mr. SIKORSKI, Mr. GILMAN, Mrs. MORELLA, Mr. CLAY, Mr. HORTON, Mrs. SCHROEDER, Mr. YATRON, Mrs. OAKAR, Mr. MCCLOSKEY, Mr. ACKERMAN, Mr. DYMALLY, Mr. SAWYER, Mr. KANJORSKI, Mr. HAYES of Illinois, Mr. MCNULTY, Mr. UDALL, and Mr. DELUGO) introduced a bill (H.R. 4872) to establish the National Advisory Council on the Public Service, which was referred to the Committee on Post Office and Civil Service.

MEMORIALS

Under clause 4 of rule XXII,

392. The SPEAKER presented a memorial of the Legislature of the State of California, relative to Azerbaijan; to the Committee on Foreign Affairs.

ADDITIONAL SPONSORS

Under clause 4 of rule XXII, sponsors were added to public bills and resolutions as follows:

H.R. 159: Mr. RINALDO.
H.R. 201: Mr. HAYES of Illinois.
H.R. 220: Mr. HOAGLAND, Mr. YATES, Mr. BOUCHER, and Mr. FROST.
H.R. 286: Mr. SHUMWAY.
H.R. 303: Mr. ROBERT F. SMITH.
H.R. 995: Mrs. BYRON.
H.R. 1068: Mr. PEASE and Mr. BRUCE.
H.R. 1546: Ms. PELOSI and Mr. RICHARDSON.
H.R. 2014: Mr. MAVROULES.
H.R. 2121: Mr. STANGELAND and Mr. HOAGLAND.
H.R. 2268: Mr. PENNY.
H.R. 2270: Mr. MILLER of Washington, Mr. HORTON, and Mr. GORDON.
H.R. 2285: Mr. ROE.
H.R. 2353: Mr. WHITTEN and Mr. FAZIO.
H.R. 2816: Mr. MAVROULES and Mr. MOAKLEY.
H.R. 2870: Mr. DYSON, Mr. WATKINS, Mrs. UNSOELD, and Mr. NEAL of North Carolina.
H.R. 3453: Mr. KILDEE, Mr. BRYANT, Mrs. KENNELLY, Mrs. SCHROEDER, Mr. MRAZEK, and Mr. CLAY.
H.R. 3693: Mr. ROE.
H.R. 3859: Mr. CLINGER.
H.R. 3914: Mr. SYNAR, Mr. SISISKY, Mr. HOAGLAND, Mr. ALEXANDER, Mr. HANCOCK, Mr. HERTEL, Mr. GUNDERSON, Mr. ESPY, and Mr. LAUGHLIN.
H.R. 3922: Mr. GIBBONS, and Mr. EMERSON.
H.R. 4079: Mr. STUMP.
H.R. 4096: Mr. KENNEDY, Mr. ROE, and Mr. MATSUI.
H.R. 4226: Mr. KYL and Mrs. VUCANOVICH.
H.R. 4310: Mr. LANTOS and Mr. DONNELLY.
H.R. 4362: Mr. LOWERY of California, Mr. ROYBAL, Mr. MINETA, Mr. CAMPBELL of California, Mr. LEWIS of California.
H.R. 4449: Mrs. BOXER.
H.R. 4640: Mr. YATRON.
H.R. 4641: Mr. SMITH of New Hampshire, Mr. TAUKE, and Mr. STARK.
H.R. 4690: Mr. BEREUTER, Mr. SERRANO, Mr. WOLF, Mr. HATCHER, Mr. VENTO, Mr. MILLER of Washington, and Mr. DYMALLY.
H.R. 4763: Mr. LEHMAN of Florida, Mr. MANTON, and Mr. FUSTER.
H.R. 4816: Mr. HATCHER, Mr. BROOMFIELD, and Mr. WYDEN.
H.R. 4818: Mrs. ROUKEMA, Mr. RINALDO, Mr. BERMAN, and Mr. BONIOR.
H.J. Res. 507: Mr. ANNUNZIO, Mr. WAXMAN, Mr. ROE, and Mr. NATCHER.
H.J. Res. 533: Mr. BOEHLERT, Mr. HUGHES, Mr. DELLUMS, Mr. NOWAK, Mr. MCEWEN, Mr. INHOFE, Mr. HAMMERSCHMIDT, Mr. CLAY, Mr. SERRANO, Mr. HOYER, Mr. SANGMEISTER, Mr. WALGREN, Mr. GILLMOR, Mr. ERDREICH, and Mr. TORRICELLI.
H.J. Res. 543: Mr. BUECHNER, Mr. RAHALL, Mrs. SAIKI, Mr. SAXTON, Mr. SCHAEFER, and Mr. PARKER.
H. Res. 384: Mr. MCCLOSKEY, Mr. MCDERMOTT, Mr. BEREUTER, Mr. FAUNTROY, Mr. BORSKI, Mr. PENNY, Mr. MFUME, Mrs. ROUKEMA, Mr. RUSSO, Mr. MCNULTY, Mr. MADIGAN, Mr. APPLEGATE, Mr. FAZIO, Mr. MATSUI, Mr. EDWARDS of California, Mr. BILBRAY, Mrs. PATTERSON, Mr. DIXON, Mr. FEIGHAN, Mr. JAMES, Mr. MRAZEK, Mr. KENNEDY, Mr. RANGEL, Mrs. UNSOELD, Mr. CARR, Mr. ESPY, Mrs. MORELLA, Mr. FOGLIETTA, Mr. KOSTMAYER, Mr. FALEOMAVAEGA, Mr. BUSTAMANTE, Mr. PANETTA, Mr. HUGHES, Mr. SABO, Mr. MOORHEAD, Mr. SHUMWAY, Mr. NEAL of North Carolina, Mr. ROBINSON, Mr. SMITH of New Jersey, Mr. GILMAN, Mr. BUECHNER, Mr. BRYANT, Mr. FORD of Tennessee, Mr. SIKORSKI, Mr. HORTON, Ms. SLAUGHTER of New York, Mr. ANDERSON, Mr. JONTZ, Mr. HERGER, Mr. LANCASTER, Mr. PRICE, Mr. UPTON, Mr. GEJDENSON, Mr. BROWN of California, Mr. GALLO, Mr. WHEAT, Mr. GLICKMAN, Mr. HYDE, Mr. TRAFICANT, Mr. GEPHARDT, Mrs. KENNELLY, Mr. GUARINI, Mr. STOKES, and Ms. LONG.

PETITIONS, ETC.

Under clause 1 of rule XXII,

175. The SPEAKER presented a petition of Michael Baldigo, Santa Rosa, CA, relative to computers; which was referred to the Committee on Ways and Means.

AMENDMENTS

Under clause 6 of rule XXIII, proposed amendments were submitted as follows:

H.R. 3030

By Mr. WHITTEN:

SEC. 326. MEASUREMENT OF THE VOLATILE ORGANIC COMPOUND CONTENT OF CERTAIN WATERPROOFING SEALERS.

No regulation, requirement, standard, guidance or state implementation plan pursuant to this Act shall require that the measurement of the volatile organic compound content of waterproofing sealers which are intended for application to multiple surfaces be performed by removing the water content by volume of such waterproofing sealers.

By Mr. BROWN of Colorado:

—Page At the end of section 505(d), insert the following new paragraph:

"(6) CERTAIN MUNICIPALLY-OWNED POWERPLANTS.—

"(A) During the Second Phase, the Administrator shall allocate and issue for each existing municipally-owned oil and gas-fired electric utility steam generating unit with nameplate capacity equal to, or less than, 40 MWe, with an actual or allowable 1985 sulfur dioxide emission rate below 1.2 lbs/mmBtu, allowances in an amount equal to the product of the unit's annual fuel consumption on a Btu basis at a 60 percent capacity factor multiplied by the lesser of its allowable 1985 emission rate or its actual 1985 emission rate, divided by 2,000.

"(B) During the Second Phase, the Administrator shall allocate and issue annually for each existing municipally-owned coal-fired electric utility steam generating unit with nameplate capacity less than 25 MWe, with an actual or allowable 1985 sulfur dioxide emission rate below 1.2 lbs/mmBtu, allowances in an amount equal to the product of the unit's annual fuel consumption on a Btu basis at a 60 percent capacity factor multiplied by the lesser of its allowable 1985 emission rate or its actual 1985 emission rate, divided by 2,000.

—At the end of the bill insert the following new title:

TITLE —EXTENSION OF ENERGY INVESTMENT CREDIT FOR SOLAR GEOTHERMAL AND OCEAN THERMAL PROPERTY

SEC. . OF ENERGY INVESTMENT CREDIT FOR SOLAR GEOTHERMAL AND OCEAN THERMAL PROPERTY.

(a) IN GENERAL.—Clauses (viii), (ix), and (x) of the table contained in subparagraph (A) of section 46(b)(2) of the Internal Revenue Code of 1986 (defining energy percentage) are amended to read as follows:

"(viii) Solar energy property.—Property described in section 48(l)(4) (other than wind energy property).	15 percent...	Oct. 1, 1990.	Dec. 31, 1993.
"(ix) Geothermal property.—Property described in section 48(l)(e)(A)(viii).	15 percent...	Oct. 1, 1990.	Dec. 31, 1993.
"(x) Ocean thermal property.—Property described in section 48(l)(3)(A)(ix).	15 percent...	Oct. 1, 1990.	Dec. 31, 1993.

(b) EXTENSION OF LEAKING UNDERGROUND STORAGE TANK TRUST FUND FINANCING TAXES.—Paragraph (2) of section 4081(d) of such Code is amended to read as follows:

"(2) LEAKING UNDERGROUND STORAGE TANK TRUST FUND FINANCING RATE.—The Leaking Underground Storage Tank Trust Fund financing rate under subsection (a)(2) shall not apply after December 3, 1993.".

(c) EFFECTIVE DATE.—The amendment made by subsection (a) shall apply to periods after September 30, 1990, under rules similar to the rules of section 48(m) of the Internal Revenue Code of 1986.